Distr.
LIMITED

UNIDO/IS.470
23 May 1984

ENGLISH

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

A SURVEY OF EMPIRICAL STUDIES IN INDUSTRIAL AND MANUFACTURING ACTIVITIES IN THE INFORMAL SECTOR IN THE DEVELOPING COUNTRIES *

prepared for

Global and Conceptual Studies Branch
Division for Industrial Studies

by

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STRUCTURE OF THE REVIEW

The purpose of this research study is to provide a comprehensive survey of existing empirical studies on industrial and manufacturing activities in the informal sector of developing countries. The study is divided into four parts. Part one, by way of background, provides a general introduction to the informal sector concept, mentioning very briefly its historical origins, its utility and limitations as a descriptive category and its popularisation as a policy solution. Part two examines empirical case studies on the sectoral composition of the informal sector, identified in terms of employment or output, focusing almost entirely at the country and city level. Part three examines the variety of quantitative and qualitative information available on branch-specific industrial and manufacturing activities in the informal sector. The study concludes with a brief comparative evaluation and analysis of the overall importance of the data, mentioning the scope and limitations of different studies in defining, enumerating and analysing the informal sector.

PART ONE

The informal sector concept, first introduced into academic anthropology (see Hart 1973) and then popularised among the international agencies by the ILO (see ILO 1972) has in the past decade become widely utilised by the policy makers concerned with the problems of industrialisation and employment in developing countries. Its fundamental importance stems from the assertion made by the ILO in 1972 that small-scale enterprises, largely unenumerated, had a productive role in Third World cities, and a capacity to generate not only employment but also autonomous economic growth. Given the failure of the 'filter down effect' - the severe employment problems often associated with large-scale capital intensive, import-substitution industrialisation in many developing countries - the identification of the productive role of the informal sector has resulted in a renewed focus of interest on the small-scale level of production.

At the outset it is necessary to identify a number of problems in both the definition and quantification of the informal sector.

a) Definitional Status

Since the utility of the informal sector was first recognised it has been applied to such a diversity of empirical data, in so many different contexts, that there is often complete confusion concerning its definition - at different times synonymous with the urban poor, people living in slums or squatter settlements, certain types of occupations, or self-help housing in informal areas. If the ability of the informal sector to generate growth and employment is to be identified, clarity of conceptual categories is essential, with the distinction between individuals and enterprises of primary importance. Although the best known and most widely used definition remains that first utilised by the ILO Kenya Report, in the following survey the definition of the informal sector used is identified in each of the studies examined.

b) Conceptual Issues

While the ILO Kenya Report identified the informal sector as independent, evolutionary and capable of growth, critics argue that in reality the level of captial accumulation possible is frequently constrained by structural factors in the total socio-economic system; such that small scale enterprises tend to participate in growth in a subordinate way. They are not independent but dependent, they grow in an involutionary rather than evolutionary manner, and the linkages between small scale and large scale are not benign but exploitative. While these a priori assumptions remain a matter for empirical clarification within each specific context, it is important to recognise that often the methodological approach adopted imposes severe constraints on both the collection and interpretation of data. Cross-sectional surveys, for instance, often cannot identify the complex interlinked set of factors which relate to both the internal and external constraints on small scale enterprises, while branch-specific studies relating to 'the collection of productive units and its relative linkage units" (Schmitz, 1982) have problems of representativeness. In a survey of empirical studies such as this the particular conceptual framework must be recognised.

c) Problems of Quantifiable Data

Unlike the formal sector, there are often problems of quantification in the examination of the informal sector and the determination of such characteristics as size, employment earnings, and labour productivity. Consequently, must of what is written on the informal sector remains speculative rather than accurate. Various factors account for this. The informal sector by definition is unenumerated, elusive and often difficult to identify. Sample surveys attempting clarification often inadvertently utilise overlapping definitional categories. Productivity indicators in this sector are difficult to assess due to the unrecorded manner in which captial inputs are acquired, the unrecognised, unpaid family inputs and the elasticity and flexibility of working hours. In household family enterprises the 'financial barriers between the economy of the "firm" and those of the household are often somewhat fluid' (Peattie, 1978). Identification of problems of quantification such as these throughout this survey will help to indicate the scope and limitations of economic data on the informal sector.[1]

PART TWO

INTRODUCTION

Part Two provides a survey of empirical studies concerned with the sectoral composition and size of the informal sector. A wide diversity of studies are reviewed all of which are concerned with the informal sector at a spatial level. Although the majority are city level studies, a smaller number are concerned with the country level and, at the other end of the spatial scale, with residential areas within the city. Most of the ILO studies in particular have utilised cross-sectional survey techniques with pre-coded questionnaires as the primary methodological approach in order to collect aggregate data at the required level. In other cases, qualitative techniques, such as anthropological participant observation collection of life histories have been employed. A few studies have provided additional information relating to particular sectors of production within the overall sectoral composition, although this is often insufficiently comprehensive.[2]

Informal Sector Definitions

All the studies concerned with the role of the informal sector in the cities of developing countries have identified, explicitly or implicitly, the particular definition of the informal sector utilised. Since it is the International Labour Organisation which within its World Employment Programme has provided the dominant influence in commissioning prescriptive studies, it is their definition of the informal sector which is most widely utilised.[3] Over the past decade, scholars such as Bairoch (1973) and Sethuraman (1976 and 1981) working within the ILO have been concerned to update the working definition of the informal sector, the methodological approach and the policy guidelines for much of the current international agency research in this area. Consequently, the definition utilised within a particular study is related directly to the date when the research is undertaken. At the outset, therefore, it would seem useful to clarify the ILO's position.

The International Labour Organisation definition as outlined first in the Kenya Report (ILO, 1972) based its two sector dichotomy between the informal and formal sector on the characteristics of the enterprise. Informal sector enterprises were identified as containing the following attributes: ease of entry; reliance on indigenous resources; family ownership of enterprises; small scale operation; labour intensive and adapted technology; skills acquired outside the formal school system; unregulated and competitive markets.

Bairoch (1973) in his examination of the impact of migration on the structure of the urban labour force, presented solutions to the problem in terms of a choice between 'urban over-unemployment or rural underemployment'. This provided the early conceptual and policy framework for the first of the ILO/WEP studies undertaken in the early 1970s. Bairoch's work determined the terms of reference, structure and orientations of a series of studies undertaken in such cities as Calcutta, Sao Paulo, Abidjan and Lagos, in which the relevance and a priori feasibility of his policy solutions were examined.[4]

In an attempt to provide a more rigorous methodological basis for the identification of the informal sector through the use of specified characteristics Sethuraman (1976) suggested:

a) the exclusion of primary industrial activities (agriculture, mining, utilities, finance) from the survey methodologies drawing upon the International Standard Industrial Classification, to facilitate the empirical isolation of the target group.

b) the alternative use of the five way sectoral classification schema (manufacturing, construction, transport, trade and services)

c) the use of sectoral indicators with which to test and identify informal sector enterprises within each sector according to the defining ILO characteristics.

(For example, the non-use of power operated construction machinery and equipment in the construction sector; the non-use of mechanically powered vahicles in its transport sector (Sethuraman 1976, 1981).[5]

Sethuraman, in introducing the most recent 1981 WEP/ILO city studies 'The urban informal sector in developing countries', defined the informal sector as follows:

> 'It consists of small scale units engaged in the production and distribution of goods and services with the primary objective of generating employment and incomes to their participants notwithstanding the constraints on capital, both physical and human and knowhow.' (17)

This concern for a 'redefinition of the informal sector' was based on the recognition that the characteristics as identified by the Kenya Mission 'do not add up to a definition of the sector', the most important problem identified as one of multiple criteria, such that 'each criterion can be used to define a universe of its own'. His choice of the 'activity or enterprise as the basic unit of dichotomisation implied that the urban economy is viewed as a continuum of enterprises engaged in the production of goods and services'.(15) Activities can be sorted out on the basis of one or more of the characteristics: mode of production, organisation, scale of operation. Sethuraman argued that:

> 'The informal sector enterprises can be interpreted as belonging to the lower end of the urban continuum of enterprises. The informal sector can therefore be expected, in principle, to overcome the capital and skill constraints over time and thus assimilate themselves with enterprises ... the term "small enterprises" as commonly used can be interpreted as belonging to the middle of the continuum: it uses a mode of production and organisation somewhat similar to the formal sector enterprise but on a relatively small scale ... the distinguishing feature between the informal sector unit and the small enterprise is their orientation; whereas the former is motivated primarily by employment creation, the latter is concerned primarily with profit maximisation.' (17)

In formulating a definition with analytical significance, Sethuraman concluded that the value added per worker - the level of labour productivity - provides an attractive single measure to distinguish the two sub-systems within urban economies, with the formal sector described in terms of high labour productivity and the informal sector in contrast in terms of low labour productivity.

Sethuraman's subcategorisation within a dualist framework is similar in emphasis to other recent studies which have sought to identify more 'dynamic' areas within the informal sector with the intention that policy measures be directed specifically to them. Nihan and Jourdain (1978) identified the 'modern informal sector' in their ILO study of Nouakchott, while Steel (1976, 1977) developed the concept of an 'intermediate' sector, thus introducing a third category, larger than typically 'informal' enterprises yet not large enough to be termed 'formal'. Thus ILO research had the stated purpose of providing comparative as well as city level conclusions. The studies were based on cross-sectional questionnaires to collect information classifiable into the three categories of a) information pertaining to the enterprise and its linkages with the rest of the economy, b) information pertaining to the head of the enterprise, and c) information pertaining to the household of the head of the enterprise.

The 1981 ILO city studies utilising Sethuraman's guidelines cover nine cities in Africa, Asia and Latin America. Empirical data was collected in an informal sector sample survey questionnaire confined to enterprises with ten or less persons and engaged in manufacturing, construction, transport, trade and service sectors. In the selection of sample enterprises different studies followed different approaches, though all sought, within the city, to cover several areas, such as the role of migration, job mobility, skill acquisition, the enterprise, capital, sales and output, backward linkages, forward linkages, competition, constraints on expansion, reaching conclusions concerning the scale and importance of the informal sector in the city under study.

Structure of the Review

Although the majority of studies reviewed in this section were commissioned by the ILO, a minority undertaken by others are also included. In order to provide consistency and systematisation in the presentation of data the studies are all reviewed in terms of the following characteristics:

1. Data source and date;
2. Size of the spatial unit identified (country, city, area withing city);
3. Definition of the informal sector utilised;
4. Sampling base and measurement technique used;
5. Size estimates;
6. Sectoral composition breakdown (by labour absorptive capacity/employment capacity; aggregated enterprise constituents; employment growth rates);
7. Earnings data for entrepreneurs and/or enterprises; wages for informal sector participants (where differing from the preceding);
8. Output data;
9. Comparative formal sector data;
10. Enterprise data (including labour structure, size of enterprise, working conditions, regularity of employment);
11. Additional information (including age/sex distributions, differential rates in labour participation);
12. Formal and informal sector linkages;
13. Constraints on enterprise expansion;
14. Brief concluding remarks.

Obviously, there are considerable differences in the range of data collected, and many studies fail to provide information on many of the characteristics listed. However, presentation in this format is intended to allow, where possible, for comparative conclusions.

The descriptive breakdown of sectoral composition varies, depending on the particular study. Generally such categories as industrial, manufacturing, construction service, trade, commerce, distribution and transport sectors are included, while some which utilise the International Standard Industrial Classification (ISIC) additionally include primary categories such as mining, utilities and agriculture.

The order in which the studies are reviewed reflects the necessity to reconcile different continents, countries and cities with significant variations in the diversity and scale of data collected dependant on the date at which the study was undertaken. The most appropriate solution to this problem is to order the studies by the date at which published but within continents and then countries, as referenced in the index.

KENYA: Country Study

Employment, Incomes and Equality. A Strategy for Increasing Productive Employment in Kenya. (Geneva; ILO 1972)

This seminal ILO Report, with identification of the informal sector as capable of autonomous growth, promoted a new policy perspective on employment:

> 'We identify the main problem as one of employment rather than unemployment. By this we mean that in addition to people who are not earning incomes at all, there is another - and in Kenya more numerous - group whom we call the "working poor".' (ILO, 1972, 9).

In focussing attention on the problem of the 'working poor', most of whom survived in the informal sector, the Report emphasised 'opportunities for earning a reasonable income' (7) rather than job creation. By defining the informal sector as a labour market with productive capacity, it identified it as a potential source of employment through which redistributive goals aimed at poverty alleviation might be achieved. As the Report which set the guidelines for many of the later studies it set out the defining characteristics of the informal sector, and outlined a supportive policy strategy to encourage informal sector development, relying on increasing the links between the formal and informal sectors. This country level case study was set in the context of the limited absorptive capacity in the Kenyan formal wage sector, seen in terms of the shortfall of wage employment growth rate of 1.9% since 1964 (7) as compared to population growth rates of Kenya of 3.3% (7).

Definition of the Informal Sector

The Kenya Report recognised the necessity of defining the informal sector with reference to the empirical experience of a particular country's setting. As such it relied on defining the informal sector according to the seven characteristics outlined in the foregoing introductory section.

Sampling Base and Measurement

The data base for informal sector information for this study was derived from household census data from the 1966 Census of Services and the 1966 Census of Distribution; statistical data from the annual enumeration of employees and statistical abstracts. As such the sampling measurement of the informal sector relied on a residual calculation.

Size of the Informal Sector

(A) Urban

Employment in the informal sector of Nairobi, in 1969, was estimated at 32,000 persons; (of which four-fifths were assumed to be African males) and therefore estimated to provide 20% of the income earning opportunities in Nairobi (54). In comparison, the informal sector in Mombasa was presumed to provide 35% of income earnings opportunities as against over 50% in smaller towns such as Malindi and Nanyuki (54).

(B) Rural

Table 1.1 below indicates the size of the rural informal sector as presented in the categories of self-employed, and family workers, by sex and age, in non-agricultural rural enterprises (1969)(37). Of a total of 106,000 employed in these combined categories, 68,000 were self-employed and 58,000 family owners.

Table 1.1

Self-employed and family workers by sex and age in small non-agricultural rural enterprises, 1969
(Thousands)

Category of workers	Men	Women	Juniors	Total
Self-employed	63	4	1	68
Family workers	9	15	14	38
	72	19	15	106

Source: Ministry of Finance and Planning: *Survey of non-agricultural rural enterprises, 1969* (unpublished).

(Source ILO, 1972, 37)

Table 1.2

Self-employment and wage employment in the various branches of commerce and services : ratios and annual rates of change, 1968–70
(Percentages)

Sector	Ratio of self-employment to wage employment			Average annual percentage rate of change	
	1968	1969	1970	Wage employment	Self-employment
Commerce	21.3	30.7	45.3	+ 0.05	+ 46.0
Wholesale	6.6	8.6	9.7	— 3.0	+ 17.5
Retail	72.3	108.9	177.6	— 3.5	+ 51.0
Dealers in motor vehicles and machinery [1]	3.6	3.8	3.5	+ 6.7	+ 5.1
Services	1.6	1.8	1.8	+ 4.7	+ 9.9
Administrative	—	—	—	+ 9.0	—
Social	0.5	0.7	0.5	+ 2.8	+ 0.9
Technical and legal	4.7	5.7	5.4	+ 9.6	+ 17.9
Recreational	38.8	3.4	3.2	+ 5.9	— 38.5
Domestic, laundry, personal	3.8	4.9	6.0	+ 2.1	+ 28.8

[1] Motor vehicle dealers and non-electrical and electrical machinery and appliance dealers. Firms that sell any other commodities and have both wholesale and retail sales are classified as either wholesalers or retailers according to whichever of the two activities appears to be the more prominent on the basis of sales.

Source: *Annual enumeration of employees.*

(Source 1972, 484)

Ratios and annual rates of change of self-employment and wage employment in branches of commerce and services 1968-70 are presented in table 1.2 above. The data shows a favourable increase in the ratio of self-employment assumedly representing informal sector employment particularly in retail trade and miscellaneous services. The rationale given for this trend as stated in the Kenya study was:

> 'One may argue that in Kenya changes in self-employment are not affected by the growth of wage employment. To the extent that the hold of the extended family is strong, there may well be an institutional preference for self-employment.' (Our emphasis, 483)

However, the study states that this is uncertain since this increase could also be attributed to policy measures by the Government.

Capital Intensity and Output

Capital intensity in the distribution sector by scale of operation is presented in table 1.3. It illustrates the greater labour intensity in smaller firms, reflecting the characteristics of informal sector firms. Taking capital ratios and value added as indicators of economic efficiency, this report suggests that:

> 'in Kenya the larger firms engaged in distribution (which can be assumed to cover the large supermarkets and wholesale establishments) are not necessarily the most efficient' (140)

Table 1.3

Capital intensity in the distribution sector, by scale of operation, 1968

Size of establishment (No. of workers)	Average ratio of fixed capital to value added	Average ratio of stock to value added	Average amount of fixed capital per worker (£)	Value added per worker (£)	Labour cost per worker (£)
0–4	0.18	0.41	258	1 417	568
5–9	0.62	1.31	534	867	506
10–14	0.59	1.08	233	398	331
15–19	0.45	0.96	352	781	385
20–29	0.39	1.69	534	1 374	767
30–39	1.25	2.33	1 235	992	640
40–49	1.12	2.14	1 267	1 128	824
50–99	1.16	2.02	1 174	1 007	541
100 and over	0.90	1.20	1 110	1 230	867
All sizes	0.58	1.12	644	1 108	600

Source: Ministry of Finance and Planning: *Census of distribution, 1968* (unpublished).

(Source ILO, 1972, 139)

Table 1.4

Self-employment and wage employment in commerce and services, 1966

Sector	Earnings per employee (£)	Labour income per self-employed person [1] (£)	Ratio of self-employed persons to wage labour (per cent)	Share of labour income in total earnings (per cent)	Ratio of earnings from wage employment to those from self-employment
Commerce	*430*	*1 400*	*23.0*	*42.8*	*0.30*
Wholesale	490	2 670	11.8	38.8	0.18
Retail	260	690	54.7	58.7	0.37
Services	*320*	*1 400*	*9.5*	*29.7*	*0.23*
Social	290	2 670	3.5	23.0	0.10
Business	610	2 850	11.2	33.2	0.21
Recreational	260	1 220	6.7	22.7	0.21
Personal	250	840	15.6	34.4	0.30

[1] Labour income from self-employment is estimated on the assumption that it is 85 per cent of net profits for commerce and 90 per cent of net profits for services. These are very rough estimates.

Sources: *Census of services, 1966*, and *Census of distribution, 1966* (unpublished).

(Source ILO, 1972, 485)

Comparative Earnings

Table 1.4 above provides a comparison of earnings of self-employed and wage-earners in terms of earnings per employee, the labour-income of the self-employed, shares of labour income in total earnings and a ratio of earnings from self-employed wage labourers. As presented here, labour income per self-employed person is higher than average wage earnings per employee, indicating a distinction between these two working categories.

Table 1.5

Self-employment and wage employment in retailing, 1966

Branch of retailing	Labour cost per employee (£)	Labour income per self-employed person [1] (£)	Share of labour income in total earnings (per cent)	Ratio of self-employed persons to wage earners (per cent)
Food, drink and tobacco	220	440	59.3	72.6
Oil and petrol	200	1 060	36.0	10.4
Textiles and clothing	300	720	67.8	88.3
Hardware, building materials and timber	280	1 620	61.8	28.5
Pharmaceuticals and photography	600	3 400	17.2	3.6
General retailing	220	820	69.3	60.2
Other	330	1 020	58.1	44.8

[1] Labour income from self-employment is derived from net profit by assuming that it is 85 per cent of total net profits in each retail industry.

Source: Ministry of Finance and Planning: *Census of distribution, 1966.*

(Source ILO, 1972, 486)

Table 1.5 shows the breakdown between self-employment and wage employment in retailing (1966, Kenya). These categories are not, however, necessarily exclusive to the informal sector. As the Report states:

> 'Under Kenyan conditions, a wide disparity in these earnings and the relatively larger labour incomes from self-employment in services may partly reflect serious market imperfections and restrictions to self-employment through rigid licensing practices and similar statutory regulations. The higher earnings in self-employment than in wage-earning jobs would in principle reflect a limited capacity of the services sector to absorb additional labour in self-employment if the existing restrictions continue.' (486)

Sectoral Earnings

Although no comprehensive breakdown estimates were given for earnings within the informal sector, the study provided estimates of informal sector contributions to the building and construction industry, assuming an informal sector definition of 'self-help' housing. The contribution of self-help schemes by private capital formation was estimated at £2 million annually from 1967-70. The share of traditionally constructed dwellings amounted to 31% of the residential construction in total construction investment and 26% to non-residential building, as well as 43% for construction and works (mainly civil engineering). (473)

Sexual Divisions in the Informal Sector

Estimated African employment in Nairobi (1969) by sex shows that female participation in the informal sector is higher than male participation, with the reverse found in the formal sector (see appendix 3).

Table 1.6

Proportion of unemployed persons and of the working poor in the adult population of Nairobi, by sex and household status, 1970 (Percentages)

	Males		Females	
	Heads of households	All members of households	Heads of households	All members of households
Unemployed[1]	4.9	10.0	10.8	22.8
Working poor	13.8	13.6	40.7	31.8
Unemployed[1] persons and working poor jointly	18.7	23.6	51.5	54.6

[1] Unemployed persons are those with zero incomes who are seeking work.

Source: tables 15 and 21.

(Source ILO, 1972, 64)

Alternative information is shown in table 1.6 which provides comparative figures of the unemployed and the 'working poor' according to sex and household status in Nairobi, 1970.

Using household heads earning less than the minimum wage (200 shillings per month) as a measure of the size of the 'working poor', it indicated the disproportionate figures for female as against male household heads (see appendix 4). The Report concluded that:

> 'By our definition just over 20% of adult males and just over 50% of females working or unemployed are affected by the urban unemployment problem in Nairobi. These are not unemployment rates, nor are they unemployment equivalents; they measure the proportion of the population lacking the opportunity of earning a reasonable minimum income - a concept more relevant in Kenya than the unemployment rate'. (63)

Additional Information

The limited provision of formal education described either by the receipt of formal qualifications and/or enrolment is shown in appendix 5.

Some indication of the factors facilitating immigrants' ease of entry into the urban informal sector is provided in the informationary methods used by male immigrants in eight individual towns for obtaining their first job, which shows a high reliance on personal relationships (through friends or relatives). (See appendix 6)

Linkages

There is little evidence presented on informal-formal sector linkages. Brief examples include product substitution as seen in the market competition of matatutus taxis with public transport and the perceived linkage effects between the formal sector and an indigenous capital goods industry (505), whether in the rural agricultural sector or urban sector.

Flaws in Definition

The most obvious limitation arises from the study's use of empirically based characteristics to define the informal sector, which results in problems of transferrability to other empirical settings. This descriptive conceptualisation of the informal sector, furthermore, did not provide an operational definition with which to distinguish between the informal sector labour force, enterprise or the activities engaged in by these enterprises.

Conclusion

The main contribution of this Report is in its policy recommendations to the informal sector - which are outside the scope of this paper. The marked lack of available data on the informal sector regarding employment, incomes and equality as anticipated from the title of this report in itself showed clearly the problems of statistical documentation of informal sector data.

KENYA: NAIROBI

'Nairobi's Informal Economic Sector' by Tara Chana and Hunter Morrison

(Ekistics, August 1975, no 257, 120-130)

This article gives a descriptive account of informal sector manufacturing enterprises at the city level, relying on data collected at the residential level. Sharing common ground (on the more limited city specific level) with the seminal yet empirically limited Kenya mission report, this study attempts to provide some measures of description of the earnings of informal sector artisanal productive sector workers, and capital consumption within various categories of informal sector enterprises, in order to provide information of the costs involved in these activities.

Definition

This study conveniently draws its definition from the ILO Kenya mission (ILO 1972). The informal sector is thus described 'as a holding ground for people awaiting entry into the formal sector, than as a distinct and potentially viable sector' (122). On a more specific level it points to the following characteristics: 'low capital requirements, rudimentary skills, and a limited range of products and markets (which) allow the job seeker easier access to work ... ' (122) Competitive markets are therefore marked as a distinctive characteristic of the informal sector (130), while illegal activities are also counted as informal sector activities.

Sampling Base and Measurement

The sampling base comprised 2500-3000 firms identified in the overview scanning survey and 52 in the smaller sample of manufacturing firms, covering a range of tinsmithing, carpentry, cobbler and other activities. The Nairobi study therefore incorporated a two-stage sampling technique. This included a preliminary scanning survey of firms in four neighbourhoods in Nairobi (Eastlands/Eastleigh, the industrial area and Nairobi river area (123) by means of aerial photography, as well as a smaller in-depth cross-section survey of small industries in the above areas. This sampling technique, however, assumed that the informal sector was visible and therefore was prone to error. For instance, mobile activities which are either conveniently or deliberately inobstrusive for legality's sake, or concentrated during certain periods of the day (eg, prostitution, gambling, etc) are missed. Other mobile activities present problems in underestimation or doublecounting by virtue of definition and the insuitability of fixed location measurement techniques such as household surveys or enterprise surveys to their measurement.

Size/Sectoral Composition

The study quotes the ILO mission figures estimating employment in the informal sector at 32,000 people with an absorption of some 20% of total urban employment (1969). Following from the selective criteria of the study's informal sector definition, it identified particular activities within the manufacturing, trade distribution, service and construction sectors, describing the distribution of activity according to the number of enterprises engaged in such work. In the order of frequency of activities represented, it identified the following: in the distribution sector, 1200 firms in retailing (general merchandise, food preparation, or both); 680 firms in small-scale restauranteering; in the transport sector 400 pirate taxis; 290 service activities in personal service and repair;

285 light manufacturing firms (tinsmiths, carpenters, cobblers, mattress makers, tailors) an unenumerated portion in construction activity, including self-help squatter housing or construction firms of landholding companies of several hundred members.

Enterprise Data

Several reasons for starting an enterprise were given as shown in table 2.1, below, which indicates the degree of variation between different occupations as seen here. Thus:

> 'A lower than average proportion of carpenters start an informal sector venture because they are unemployed or want a better job, while a larger than average proportion begin because they have had previous experience and find entry easy, or they have fathers with similar experience'. (126)

Table 2.1

Reasons for starting enterprise

Group (number)	Reasons for starting (in percentages)					
	Un-employed	Ease of entry/ interest	Previous experi-ence	Better-ment/ profitable	No alter-native	Father's work
Tinsmiths (28)	28.5	10.7	17.9	28.5	14.3	
Carpenters (14)	28.6	21.5	21.5	14.3		14.3
Cobblers (7)	14.3	14.3	14.3	14.3	28.5	14.3
Mattress makers and tailors (3)		66.6			33.3	
All groups (52)	24	17	16	16	13	6

(126)

Captial Usage

As seen in table 2.2 below, the level of capital usage in the sample of enterprises was low. The capital demands of different activities as in the use of tools, etc, did, however, vary. So while low levels of capital investment were reported, averaging US$ 10 or less, carpenters, however, appeared as an exception due to the higher capital demands of their craft. (126)

Table 2.2

Cost of tools

Group (number)	Cost of tools (US$) in percentages			
	1-10	11-20	21+	No answer
Tinsmiths (28)	57.2	21.5		21.3
Carpenters (14)	7.1	28.6	64.2	
Cobblers (7)	14.3	71.4		14.3
Mattress makers and tailors (3)	33.3		33.3	33.3
All groups (52)	36	28	20	16

(Source Chana and Morrison, 1975, 126)

A comparison of cost of tools, initial capital and shelter (see tables 2.3 and 2.4 below) indicates that tools constitute the major cost, with the average total investment for tools for all firms at US$15. By comparison, the average expenditure on shelter is $7 and that on land $0.70 per month (127). The range of shelter investment is, however, from US$0 to 40. Reportedly, 'The shelter type most commonly used is of the "squatter market" variety - a small structure of cardboard, tin or wood on a light frame of eucalyptus poles. It is easily erected, easily dismantled, and expensive'. Of the sample, 64% of the entrepreneurs build this structure, 19% use a work area and no shelter, and only 13% built a 'substantial, enclosed workroom/ store or dwelling unit on their plot' (127). Enterprise plots average 15 square meters, but there is considerable range in size from 3 to 30 square meters (see appendix 7).

Table 2.3

Initial capital

Group (number)	Initial starting funds (US$) in percentages				
	1-10	11-20	21-40	41+	No answer
Tinsmiths (28)	75.0	10.7		10.7	3.6
Carpenters (14)	35.8	14.3	35.7	7.1	7.1
Cobblers (7)	28.6	14.3	21.4		14.3
Mattress makers and tailors (3)	66.6			33.3	
All groups (52)	56	12	16	10	6

(Source Chana and Morrison, 1975, 126)

Table 2.4

Cost of shelter

Group (number)	Cost of shelter (US$) in percentages				
	0	1-10	11-20	21-40	No answer
Tinsmiths (28)	39.3	35.6	7.2	7.2	10.7
Carpenters (14)	43.0	35.7	7.1	7.1	7.1
Cobblers (7)	14.3	14.3	7.1	7.1	57.1
Mattress makers and tailors (3)		33.3		33.3	33.3
All groups (52)	34	33	6	10	17

(Source Chana and Morrison, 1975, 127)

Materials

Materials used for production varied. A combination of used/waste materials with or without new materials were used by 77% of enterprises, while 56% used new materials either exclusively or in combination (128). With such variety in materials used, the cost structures for materials (unreported for these sources) no doubt varied.

Labour Structure

Labour usage in the informal sector was limited, since only 43% of the firms had employees, apprentices or partners, and even then, only generally employing not more than 2 additional employees (see table 2.5 below). 53% of the firms were comprised of entrepreneurs in this self-employed category, with no other help. Of the firms with employees, 17% employed part-time helpers, 13% employed full-time help, 10% apprentices, and 6% partners (218).

Table 2.5

Type of employment

Group (number)	Type of employment				
	Self	Part-time	Full-time	Partner	Apprentice
Tinsmiths (28)	67.9	10.7	10.7		10.7
Carpenters(14)	21.4	35.7	14.3	14.3	14.3
Cobblers (7)	85.7	14.3			
Mattress makers and tailors (3)	66.6			33.3	
All groups (52)	57	17	14	6	10

(Source Chana and Morrison, 1975, 128)

Profile of Entrepreneurs: Age, Migrant Status and Training

The mean age of the sampled enterpreneurs in manufacturing was given as 27 years, though the range of entrepreneurs varied from 15 to 50 years (see appendix 8(a)). Migrants to Nairobi were in the majority, representing some 94% of the sample (124). The average length of stay in the city was given in the study as 7.6 years, though as stated in the study, this is not indicative of the higher degree of migration occurring immediately after independence and during 1967 and 1970 (124). Details of length of stay according to entrepreneurs as a basis of distinguishing the migrational patterns of entrepreneurs,are provided in appendix 8(b). Carpenters and tinsmiths overall displayed a more constant pattern of migration, unlike the erratic pattern of cobblers (124-125).

Some 96% of the sampled entrepreneurs had no more than a primary school education; of these, 12% had no education. None of the entrepreneurs had vocational or polytechnic school training, but this was not necessarily representative of the absence of formal training as defined in the study. (125)

Fifty per cent of the carpenters interviewed had formal training of crafts skills by comparison with 25% of the tinsmiths and 14% of the cobblers interviewed. (125) The vast majority of the latter professions, 85% of tinsmiths and 71% of cobblers, learnt their craft by asking friends or through observation. The study also pointed out that the management skills were also acquired in this manner. (125).

Earnings

The average monthly wage in the 'multimember' enterprises was US$14 and 30% less than the then national minimum wage of US$20 per month (at the time of the survey). (128). Eighty per cent were paid the minimum wage or less, 30% more than the minimum wage and 6.9% considered apprentices were paid nothing. (128) The time interval for wages payment, reflective of the regularity of employment, varied from daily, piece wages to weekly wages. (19%)

Linkages and Product Markets

Most goods produced by these enterprises were for consumer markets. The product lines were, meanwhile, fairly similar. For example, 75% of tinsmiths produced jikos (or small brasses) and 50% manufactured water containers; 78% of the carpenters specialised in chairs and cupboards and 71% tables. (128) The price ranges of these firms' products are seen in table 2.6 below. Although market competition facing these firms varied, the limited price range, common to those firms offering 'a limited and commonplace range of goods and services" (129), indicated a fairly competitive market amongst these enterprises. As indicated in the study, 85% of the informal sector firms retailed some or all of their goods, and 54% wholesaled some or all of their goods. While 96% retailed within Nairobi, 31% marketed outside the city (adjacent and nearby rural districts) (129)

Table 2.6

Products	Most expensive item	Most common item
Tinsmiths	Water drums @ $3.50	Jikos @ $0.50 to $1.00
Carpenters	Wardrobe @ $35.00	Cupboards @ $6.00 to $30.00 Chairs @ $1.00 to $3.00
Cobblers	Shoes @ $5.00	Shoes @ $1.00 to $5.00

(Source: Channa and Morrison, 1975, 129)

According to the subjective appraisal of sampled entrepreneurs, the prospects for expansion as represented in 'the outlook and future plans' of entrepreneurs were relatively optimistic (see appendix 6(c)).

Flaws in Definition

The size criterion for distinguishing informal sector enterprises was left unstated in the study. Self-help housing activity included as an informal sector activity is also best construed as an income-consuming, rather than an income producing activity. A notable distinction made in the outline classification of informal sector activity is that made between building construction and building materials sectors of the construction sector, although income earning participants in the building sector were misrepresented.

Concluding Remarks

The study deduces that the informal sector is an unviable economic sector, as such only worthwhile as a temporary substitute for formal sector employment:

> 'Nairobi's informal sector serves principally as a holding ground or staging ground for young job seekers who have come to the city from nearby rural areas in search of formal sector employment ...' however, the 'informal sector, then is less a distinct and potentially viable economic unity, than it is a by-product of the present development process in Kenya'. (130)

The informal sector is described as displaying no linkages with the formal sector, primarily since the nature of activities covered are artisanal and geared towards consumer markets. However, these conclusions are reached through a selective and unrepresentative look at Nairobi's informal sector. Although the study makes convenient use of the Kenya Mission's definition of the informal sector, with data collected in the same city, it fails to reach the same conclusions concerning the productive potential of the informal sector in Nairobi.

IVORY COAST: ABIDJAN

'Abidjan. Urban Development and Employment in the Ivory Coast'

By H Joshi, H Lubell and J Mouly. (ILO: 1976)

The Abidjan case study surveys the employment problem of that city, in the context of a dynamic economy faced with problems of labour absorption of an expanding migrant population. Included in the data provided are size estimates of the informal sector by labour participation for the Ivory Coast and Abidjan, size estimates of the informal sector enterprises by branch and sub-branch for Abidjan and Bouake. The major proportion of the data provided in this study is therefore at the city level.

Definition

As the Abidjan case study proposes: 'the informal sector can be defined not by reference to the nature of an activity itself, but by the conditions in which the activity is carried on'. (51) As a complement to the seven main characteristics of the informal sector originally outlined by the ILO (1972), the study proposed the use of additional criteria, originally formulated by the Office de la Recherche Scientifique at Technique Outremer for its 1969 survey of Bouake's crafts and traditional services activities. These five criteria were:

a) the receipts of the enterprise do not exceed Fr CFA 100,000 a month;

b) the equipment used is rudimentary;

c) the enterprise employs not more than two workers;

d) labour productivity is low;

e) the entrepreneur is not actively seeking more customers.

It should be noted, however, that this definition departs from the size criteria of the ILO definition inclusive of under ten workers, but this diversion seems only to apply specifically to the Bouake data. Otherwise, the study in the main drew on ease of entry, family enterprise, competitive and unregulated markets as defining characteristics, with the additional statement of the 'abundant supply of labour consisting of workers who ordinarily have not received vocational training in specialised institutions'. (59)

Sampling Base and Measurement

No specific note of the sampling methodology of the different data sources were made in this study. The data was drawn from a number of government surveys, some of which are referenced in the tables.

Sectoral Composition

The study estimates the size of the informal sector, as a residual both for the Ivory Coast and Abidjan, its capital city. At the country level, the size of the informal sector is estimated at almost 90% (1,703,300 in 1965; 1,925,440 in 1970)(See appendix 9). The size of the informal sector of Abidjan was calculated as 28% in 1965, and 31% in 1970, of the urban labour force, as table 3.1 shows.

Table 3.1

Employment in Abidjan by sector—informal, formal, primary, secondary, tertiary —1965 and 1970
(percentages)

Sectors	Informal	Formal	Both
1965:			
Primary	1.9	2.0	3.9
Secondary	7.8	24.3	32.1
Tertiary	18.4	45.6	64.0
All three	28.1	71.9	100.0
1970:			
Primary	1.9	2.0	3.9
Secondary	9.8	24.8	34.6
Tertiary	19.0	42.5	61.5
All three	30.7	69.3	100.0

(Source: ILO, 1976, 8)

The breakdown of the informal sector labour force into self-employed and family workers, and wageworkers, shows that in general the former category contributes relatively more significantly to the informal sector labour force for Abidjan and for the Ivory Coast as a whole (with the exception of the tertiary sector at the country level).

Calculating the informal sector as a residual category, the study gives a breakdown of informal sector workers into sectors of activity, according to ISIC categories. At this level, it distinguishes the rural informal sector as a primarily agricultural branch (comprised mainly of subsistence farms and small holdings) comprising 97% of employment activities. (82). By contrast, the study identifies industry (manufacturing, handicrafts, and utilities) and construction as major areas of urban informal sector labour, employing 61% and 60% of the labour force of these sectors respectively (82-83). For both the Ivory Coast and Abidjan, the tertiary sector was identified as a major informal sector employment source. (1970 data).

Informal sector workers in secondary activities in Abidjan (1970) comprised a total of 15,000 persons, distributed as follows: 4,000 in textiles and clothing; 2,900 in construction; 2,300 in vehicle repair; 1,900 in woodworking (see appendix 10). Corresponding size estimates of branch and sub-branch activity data according to numbers of informal sector enterprises in Bouake (1969) confirms the dominance of the textile industry in the manufacturing sector with a total of 1,010 out of a total of 1,927 manufacturing enterprises; it also indicates that transport and associated activities are a dominant employment source in the tertiary sector, with 668 out of a total of 1,200 enterprises; it reveals the dominance of certain sub-branch activities such as tailoring and weaving in the textile industry (with 513 and 440 enterprises respectively).[6]

Output and Productivity Measures

In the conclusion drawn from the output data on value added per worker for the Ivory Coast in the formal against informal sector (1970), the study states that: 'Productivity per worker is considerably lower in the informal than in the formal sector' (56). The primary reason given to explain this is the high levels of capital employed in the formal sector. As presented in the data, in table 3.2 the discrepancy between informal sector and formal sector productivity levels is large for the trade and commerce category where the informal sector measures favourably at 61% of formal sector productivity.

Table 3.2

Value added per worker in the informal and formal sectors of the economy, by branch of economic activity, Ivory Coast, 1970
(thousands of Fr. CFA)

Sector and branch	Informal sector (1)	Formal sector (2)	Combined (3)	Ratio (1) ÷ (2) (4)
Primary	53.6	430.9	65.3	0.12
Foods crops, livestock, hunting	*179.4*	*555.6*	*180.2*	*0.32*
Industrial and export crops	*29.9*	*268.4*	*36.3*	*0.11*
Forestry	.	*479.3*	*564.0*	.
Fisheries	*112.5*	*668.1*	*229.3*	*0.17*
Secondary	137.0	603.1	317.9	0.23
Mining	.	*575.4*	*575.4*	.
Grain processing	*382.6*	*402.4*	*391.5*	*0.95*
Food processing industries	*165.5*	*821.9*	*440.1*	*0.20*
Beverages and ice	.	*880.6*	*880.6*	.
Edible oils and fats	*120.4*	*888.9*	*496.2*	*0.14*
Other food and tobacco	.	*1 464.7*	*1 464.7*	.
Textiles, clothing	*122.1*	*847.2*	*253.2*	*0.14*
Leather and footwear	*210.2*	*791.9*	*446.7*	*0.27*
Wood and wood products	*78.8*	*334.1*	*201.7*	*0.24*
Petroleum refining	.	*5 326.1*	*5 326.1*	.
Chemicals	.	*692.4*	*692.4*	.
Rubber	.	*826.9*	*826.9*	.
Building materials and glass	.	*1 111.3*	*1 111.3*	.
Metal working	.	*840.0*	*840.0*	.
Vehicle assembly and repair	*199.7*	*1 065.8*	*527.2*	*0.19*
Other mechanical and electrical industries	*77.1*	*726.6*	*186.1*	*0.11*
Miscellaneous industries	*361.5*	*699.1*	*436.6*	*0.52*
Electricity, gas and water	.	*2 770.5*	*2 770.5*	.
Construction and public works	*116.9*	*421.7*	*239.7*	*0.28*
Tertiary	559.8	1 041.3	874.1	0.54
Transport and communications	*250.1*	*1 044.9*	*602.2*	*0.24*
Housing, other services	*556.4*	*3 176.2*	*1 307.7*	*0.18*
Trade and commerce	*1 139.5*	*1 876.8*	*1 545.6*	*0.61*
Public and private administration	.	*817.1*	*817.1*	.
Financial institutions	.	*1 427.7*	*1 427.7*	.
Domestic service	.	*147.5*	*147.5*	.
All sectors combined	73.3	763.8	153.3	0.10

Source: *L'image base 1970: L'emploi*, **op. cit., pp. 136, 138, 140.**

(Source: ILO, 1976. 57)

Table 3.3 compares output and employment in the construction industry in the Ivory Coast in 1971 as a source of estimating direct employment effects of the construction industry. This data taken from national accounting figures of the construction branch in 1970 prices shows that in the informal sector 'material inputs absorbed 63% of value of output and value added the remaining 37%; while output per person employed came to only Fr CFA 315,000'. (71) This is compared to an absorption of 52% of material inputs for the value of output and 48% value added, 26% of which accounted for wages and salaries in the formal sector (71). With regards to the informal construction sector, the study describes it as a source of minimum indirect employment effects, materials absorbing a greater amount of costs than labour costs (see appendix 11 for proportion of material and labour costs).

Table 3.3

Output and employment in the construction industry in the Ivory Coast, 1971

Item	Sector Formal	Sector Informal	Total
1. Value of output and value added (Fr. CFA millions):			
Value of output [1]	37 000	19 614	56 614
Material inputs	19 290	12 339	31 629
Value added [2]	17 710	7 275	24 985
of which: Wages and salaries	9 819	3 490	13 309
2. Value of output and value added (%):			
Value of output [1]	100.0	100.0	100.0
Material inputs	52.1	62.9	55.9
Value added [2]	47.9	37.1	44.1
of which: Wages and salaries	26.5	17.9	23.5
3. Persons employed (number):			
Self-employed and family workers	—	54 230	54 230
Wage earners	42 000	8 000	50 000
Total	42 000	62 230	104 230
4. Value of output per person employed (Fr. CFA)	880 950	315 185	543 164
5. Man-years of employment per Fr. CFA 1 million of output (number) (1 million divided by line (4))	1.135	3.173	1.841

[1] At market prices. [2] At factor cost.

Sources: *L'image-base 1970 : L'emploi*, op. cit., pp. 28, 29, 217, 221; and Ministère du Plan: *Les comptes de la nation, 1970* (Abidjan, 1972), p. 23-09 as corrected.

(Source: ILO, 1976, 72)

Earnings

Income data is shown by comparing annual minimum wages for unskilled labourers and the lowest category of workers, as well as the lowest category of clerical workers. (Fr CFA 121,236 and Fr CFA 157,512 respectively) to average values added per worker in various branches of the informal sector. The study states that:

> 'These income levels are not higher, on the whole, than average value added per worker in the various branches of the informal sector'. (58)[7]

Problems in Data

Several problems arise in the data: firstly, estimates on the informal sector are, as admitted in the study, unreliable and therefore only tentative; the definition of the informal sector led to the exclusion of important branches within it; furthermore, the data's measurement indicators lack methodological rigour. For example, they do not explain the particular factor costs which are accounted for in the value added costs or in the value of products as secondary, informative data. In the first case, details of other factor cost breakdowns such as capital in the construction sector would be useful. Moreover, the output data on secondary and tertiary activities for the Ivory Coast are assumedly 'urban', but the Abidjan study does not give a picture of the specific contribution of Abidjan informal sector industries.

In the data available, no indication of the capital labour ratios is given to complement the analysis of the output data. The operational usage of easy entry was contradicted by the study's findings of ethnically defined sectors such as in trade or crafts. Constraints on the development of the informal sector and information on formal/informal sector linkages were absent. On the whole, the data as presented is inconsistent with the defined geographical area of coverage, providing information on the country and other urban areas at the country and town/city level (Bouake for example) as a substitute for rather than a complement to substantive data on Abidjan itself.

Concluding Remarks

While containing data on the informal sector of Abidjan (size estimates by labour force size and number of enterprises; output and income data), the quality and quantity of actual data presented has serious problems. Estimates of the informal sector, as admitted in the study, were unreliable and therefore only tentative measures due both to problems encountered in the definition of the informal sector and arising from its secondary data sources. For these reasons, conclusions as to the lower productivity and earnings levels in the informal sector remain only tentative.

GHANA: COUNTRY STUDY

'Small Scale Employment and Production in Developing Countries: Evidence from Ghana', by William F Steel (Praeger, New York, London, 1977

This country level study of Ghana examines the output and employment potential of the labour-intensive small-scale and intermediate sectors, as well as testing out the relationship between location and small scale as against intermediate scale enterprise development. It provides comparative urban employment data for small and intermediate-sized enterprises, according to the numbers of workers employed utilising the international standard of industrial categories (ISIC), sectoral and branch classification in manufacturing activity. Data on employment output linkages, capital-labour substitution provides the basis for examining the growth potential in branches of industry. Within this framework of discussion, the informal sector is treated as the low productivity end of small scale enterprises.

Definition

Steel's definition of the informal sector is based on the technological-economic characteristics of the enterprise. He utilises size (under 10 workers per enterprise) and labour market criteria (unregulated as against 'institutional' unionised labour) as the basis for distinguishing the informal sector from what he terms the 'intermediate' sector. Both are subject to the same unregulated market conditions, but the informal sector has specific characteristics. As identified by the author, these include:

> 'Labour in activities (legal and illegal; usually trade and services) that involve little or no fixed capital or formal business organisation; underproductive, in that additional workers add little or nothing to the value of output (zero marginal product) but simply share in existing sectoral income. Self-employed or assisted by family members, with no wage labor. Example: 20 cloth sellers in the same marketplace'.
>
> (Steel, 1977, 11)

The summary characteristics of the informal sector as compared to the 'modern', 'intermediate', and unemployed sectors of the urban labour force are presented in table 4.1 below.

Table 4.1

Characteristics of Four Urban Labor Force Categories

Category	Wage Determination	Productivity	Employment	Capital	Size, Technology, Organization
Modern	Institutional: Minimum wage = MP (high)	High AP High MP	Wage labor	Capital-intensive	Large Modern techniques Incorporated
Intermediate	Market: Wage = MP (low)	Moderate AP Low MP	Wage labor Apprentice Family Self-employed	Some fixed assets but relatively labor-intensive	Small Intermediate technology Fixed place of business
Informal	Market: Wage = AP (low)	Low AP MP = 0	Self-employed Family	No fixed capital: highly labor-intensive	Very small Simple or traditional techniques No formal business organization
Unemployed	No earned income	Nil	Seeking a job (presumably in modern sector)	None	None

AP = Average productivity (total output per worker).

MP = Marginal productivity (additional output as a result of adding a worker).

Source: Steel and Takagi 1976.

(Source: Steel, 1977, 11)

The 'modern' sector is depicted as a capital-intensive[5], high labour-productivity sector, subject to unionisation and minimum-wage legislation. The 'intermediate' sector comprises that part of the labour-intensive, small-scale sector with 10-29 workers per enterprise, characterised by relative capital utilisation, and the use of non-family as well as family and self-employed labour.[6] Steel's definition of the non-modern sectors (combined small and intermediate-scale sectors) therefore corresponds closely to what is generally called in totality the informal sector, in so far as it is labour intensive, and subject to low-capital organisation of production and distribution.

Sample Base and Techniques Measurement

In this study, the estimated size of the informal sector was derived from a residual calculated between census and recorded employment data for combined informal and intermediate sectors. (The informal sector was then isolated, assumedly by definition, according to its 'unproductive' nature). However, 'informal manufacturing, by the definition used in this study, would be confined primarily to production in the home for consumption there ...' and was therefore considered an unimportant category in this sector. (57)

Country-wide data on size characteristics of small and large scale manufacturing were derived from the 1963 Area Sample Survey of Small Manufacturing Establishments, the 1962-64 Industrial Statistics, and the 1973 Survey of Small Scale Enterprises selected in the 3 urban areas of Aburi, Nsawam and Accra, and intended to represent small, intermediate and large city-size categories. In the first two towns, a complete enumeration was undertaken, while in Accra a 10% sample survey was undertaken in the census enumerated areas.

Other general country data included the 1970 Population Census IV and the 1970 Labour Statistics. Data on women was derived from a combination of the above plus Industrial Statistics (57). The study also drew extensively on the Accra Manufacturing Survey 1973.

Size and Sectoral Composition

The size and sectoral composition of the intermediate and informal sector category of employment in Ghana is provided in table 4.2 below, which shows that 90% of intermediate and informal employment is in agriculture, commerce and manufacturing sectors. The commerce and manufacturing sectors alone comprise 73% of non-agricultural intermediate informal employment as compared to the modern sector (57). The four largest employers of intermediate workers '(food, wearing apparel, beverages and furniture) are also the industries heavily dominated by small-scale employment (over 90% of workers in each industry).'(57)

Table 4.2

Relative Sizes of Modern, Intermediate, and Informal Employment and Women's Share by Sector, 1970 (percentage)

Sector (in order, by intermediate and informal sector share)	Share of Total Workers		Share of Category		Women's Share		
	Modern Employment	Intermediate and Informal[a]	Modern Employment	Intermediate and Informal[a]	Total Workers	Modern Employment	Intermediate and Informal
Largest Modern and Intermediate Sectors							
Agriculture, forestry, and fishing	2.7	97.2	12.3	63.5	43.2	13.6	44.0
Commerce	8.2	91.8	9.0	14.6	83.7	10.6	90.2
Manufacturing	13.9	86.1	13.3	12.0	56.1	7.2	64.0
Services	43.0	57.0	34.6	6.7	17.6	15.0	19.5
Construction	68.0	32.0	12.6	0.9	3.6	2.4	6.2
Total, all sectors	12.7	87.3	100.0	100.0	45.2	9.7	50.3
Largest Modern and Intermediate Manufacturing Industries							
Food	3.4	96.6	7.5	37.3	85.8	—	—
Wearing apparel	3.7	96.3	6.3	28.1	64.5	—	—
Beverages	7.9	92.1	5.1	10.3	57.0	—	—
Furniture	6.9	93.0	3.0	7.0	2.2	—	—
Textiles	41.5	58.5	20.1	4.9	14.6	—	—
Wood products	62.6	37.4	23.0	2.4	21.4	—	—
Printing, publishing	59.4	40.6	5.0	0.7	19.0	—	—
Correlation Coefficients							
Intermediate and informal share of total workers							
All sectors	-1.00	1.00	.18	.60**	.82***	.74**	.69**
Largest sectors	-1.00	1.00	-.36	.67	.85**	.52	.82**
Manufacturing industries[b]	-1.00	1.00	.06	.65***	.52**	—	—
Largest industries	-1.00	1.00	-.66	.72*	.58	—	—
Share of intermediate and informal employment							
All sectors	.69**	.69**	.06	1.00	.45	.62**	.37
Largest sectors	-.67	.67	-.27	1.00	.24	.49	.19
Manufacturing industries[b]	-.65***	.65***	.08	1.00	.86***	—	—
Largest industries	-.65	.65	-.34	1.00	.88**	—	—

*Significant at α = .10.

**Significant at α = .05.

***Significant at α = .01.

[a] Calculated as a residual.

[b] Fourteen industries with 2 percent or more of employment in either the large-scale or the small-scale sector.

(Source: Steel, 1977, 58)

The share of the intermediate and informal labour force participation is extremely high in percentage terms (87.3%), dominating the primary industries, commerce and manufacturing sectors and to a certain extent the services sector. Those sectors of manufacturing dominated by the intermediate and informal sectors are mainly food, wearing apparel, beverages, furniture and textiles.

Women occupy a more dominant position in the informal and intermediate sectors than in the modern sector. They comprise 64% of small scale manufacturing, as against 7.2% in modern employment (an overall 50.3 as against 9.7% in the modern sector).

Size and Distribution in Selected Towns

The size distribution of small-scale enterprises (including intermediate and informal categories) by sector and sub-sector for Accra, Aburi and Nsawam are provided in appendix 12, 13 and 14, which provide some estimates of the employment potential - with sectoral distribution of small scale enterprises into manufacturing; repairs; food, drink and lodging; services and sales categories for these 3 towns. Correlation of the data is shown in table 4.3 below, which indicates a smaller overall informal sector size in Aburi as compared to Accra, in terms of the employment potential of this sector.[8]

Table 4.3

Distribution of Small-Scale Business and Employment by Sector of Production and City Size, 1973 Survey

Sector	Small-Scale Businesses			Small-Scale Employment		
	Aburi	Nsawam	Accra	Aburi	Nsawam	Accra
	Number per 100 Nonagricultural Employment					
Manufacturing	1.7	2.7	1.8	2.7	6.2	6.0
Repairs	0.5	0.5	0.4	0.6	2.5	2.1
Food, drink, lodging	1.0	1.5	1.0	1.9	2.8	2.4
Services	0.2	0.3	0.4	0.2	0.8	1.4
Sales	1.8	1.6	2.3	2.2	2.1	3.4
Total	5.1	6.6	5.9	7.5	14.4	15.2
	Percentage of Total Small-Scale Sector					
Manufacturing	32.5	41.2	31.0	36.1	43.3	39.4
Repairs	9.6	8.0	7.0	7.4	17.2	14.1
Food, drink, lodging	19.3	22.2	16.8	25.4	19.4	15.6
Services	3.6	4.0	7.1	2.5	5.3	9.0
Sales	34.9	24.6	38.0	28.7	14.9	22.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: Nonagricultural employment has been projected to 1973, using 1960–70 growth rates, for comparison with survey data from Aburi, Nsawam, and Accra.

(Source: Steel, 1977, 81)

The number of small scale enterprises relative to the population as illustrated in table 4.3 shows that the number of small scale businesses per 100 people was 5.1 for Aburi, 6.6 for Nsawam and 5.9 for Accra; and therefore increased with the size of town. The extent to which workers are absorbed into small as against large scale enterprises is illustrated in appendix 15, which shows that overall, small scale enterprises employ a significant share of the total number of industrial workers in employment.

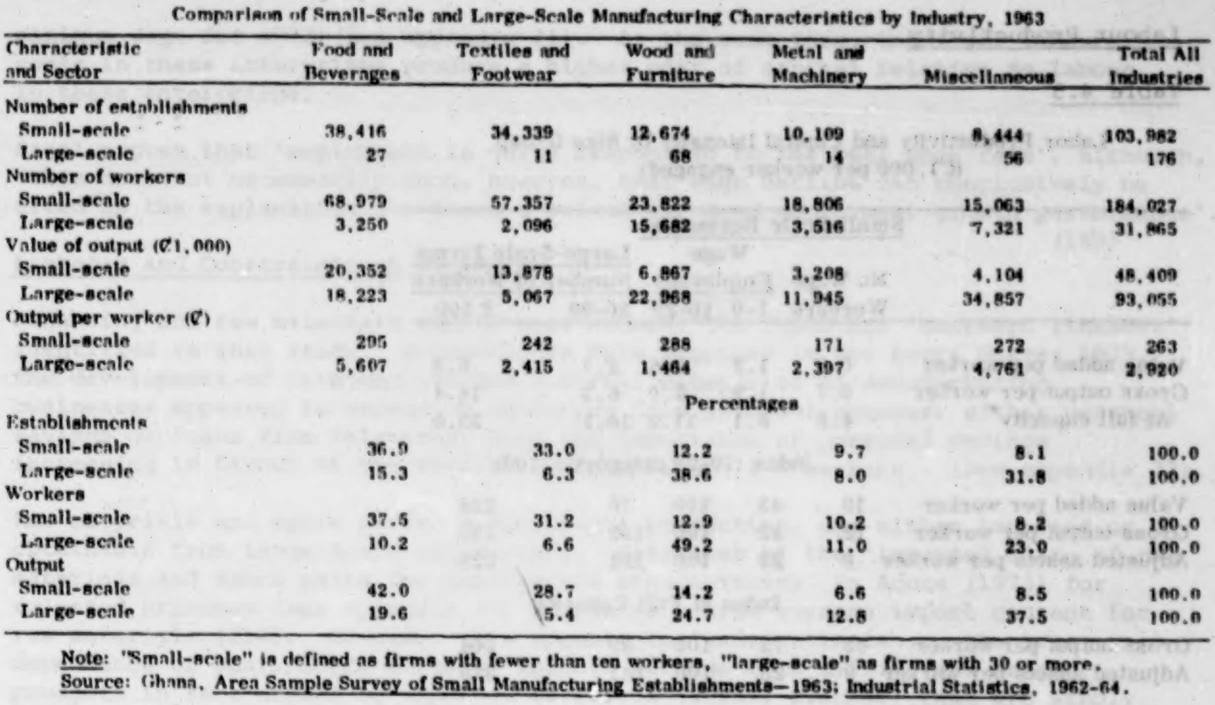
Labour Force Composition

A comparison of labour force structures within small scale enterprises by increasing town size, illustrated in table 16 of the appendix, shows changes within this structure with increasing town size. Thus, the self-employed account for a larger portion of small-scale labourers in Aburi, as against Nsawam and Accra. This data also indicates a fairly significant proportion of apprenticeship labour, particularly in Nsawam and Accra. All three cities depend, to a greater or lesser degree, on a source of labour other than the entrepreneur/owner. For Aburi, this is family labour (21%), for Nsawam this is apprenticed labour (32.8%), while for Accra it is wage workers (with 30.7% full-time-wage workers).

Output, Productivity and Efficiency Indicators:

Output

Table 4.4



Comparison of Small-Scale and Large-Scale Manufacturing Characteristics by Industry, 1963

Characteristic and Sector	Food and Beverages	Textiles and Footwear	Wood and Furniture	Metal and Machinery	Miscellaneous	Total All Industries
Number of establishments						
Small-scale	38,416	34,339	12,674	10,109	8,444	103,982
Large-scale	27	11	68	14	56	176
Number of workers						
Small-scale	68,979	57,357	23,822	18,806	15,063	184,027
Large-scale	3,250	2,096	15,682	3,516	7,321	31,865
Value of output (₵1,000)						
Small-scale	20,352	13,878	6,867	3,208	4,104	48,409
Large-scale	18,223	5,067	22,968	11,945	34,857	93,055
Output per worker (₵)						
Small-scale	295	242	288	171	272	263
Large-scale	5,607	2,415	1,464	2,397	4,761	2,920
			Percentages			
Establishments						
Small-scale	36.9	33.0	12.2	9.7	8.1	100.0
Large-scale	15.3	6.3	38.6	8.0	31.8	100.0
Workers						
Small-scale	37.5	31.2	12.9	10.2	8.2	100.0
Large-scale	10.2	6.6	49.2	11.0	23.0	100.0
Output						
Small-scale	42.0	28.7	14.2	6.6	8.5	100.0
Large-scale	19.6	5.4	24.7	12.8	37.5	100.0

Note: "Small-scale" is defined as firms with fewer than ten workers, "large-scale" as firms with 30 or more.
Source: Ghana, Area Sample Survey of Small Manufacturing Establishments—1963; Industrial Statistics, 1962-64.

(Source: Steel, 1977, 62)

As shown in table 4.4, Steel calculated from data extracted from the 1963 Ghana, Area Sample Survey of Small Manufacturing Establishments, that:

> 'Small-scale establishments employ six times as many workers as large-scale firms, and produce more than half the value of output'. (62-63)

This data corroborates findings elsewhere, showing higher labour productivity in large-scale firms, 'with the greatest divergence coming in food and beverages (the largest small-scale industry)' (63). Within these selected branches (food and beverages, textiles and footwear, wood and furniture, metal and machinery), textiles and footwear, and food and beverages comprise a significant proportion of employment and output in the intermediate manufacturing sector. Textiles and footwear contributes to about one-third of employment and output and food and beverages ever higher, although '(C)ensus data indicate, however, that the major portion of employment in these industries is in local preparation of food for sale, which may not be included in manufacturing in other countries' (63).

Capital-Labour Ratios

A comparison of capital-labour ratios in small- versus large-scale enterprises in appendix 17 shows:

> 'a clearly increasing relationship between firm size and capital/labour ratio ... even more pronounced among smaller firms than among larger ones',

whilst: 'in terms of original cost measured in dollars, the capital/labour ratio in each small scale size group is approximately triple that of the next smaller group'. (97)

Capital labour ratios within ISIC branches of industry are further detailed in appendix 18.

Labour Productivity

Table 4.5

Labor Productivity and Capital Intensity by Size Group
(₵1,000 per worker engaged)

	Small-Scale Businesses			Large-Scale Firms	
		Wage Employees		Number of Workers	
	No Wage Workers	1-9	10-29	30-99	≥ 100
Value added per worker	0.5	1.2	2.8	2.1	6.3
Gross output per worker	0.7	1.9	6.0	6.3	14.4
At full capacity*	4.9	8.1	11.3	10.1	23.0
	Index (10-29 category = 100)				
Value added per worker	19	43	100	76	228
Gross output per worker	12	32	100	105	239
Adjusted assets per worker	8	25	100	101	228
	Index at Full Capacity				
Gross output per worker	43	72	100	89	204
Adjusted assets per worker	9	23	100	141	319

*For large-scale firms, assuming that output could be doubled, on the average, with a 25 percent increase in number of workers employed.

(Source: Steel, 1977, 103)

Steel argues that Labour productivity, as measured by value added and gross output, increases with captial intensity and generally with increasing firm size, since 'each column is two to three times greater than the preceding (significant in most cases), except that there is not significant difference between firms with 10-29 and those with 30-99 employees'. (102). On the more specific branch level, estimates for labour productivity by value added and gross output are detailed in appendix 19.

Utilisation of Productive and Employment Capacity

The potential expansion capacity as compared to capacity utilisation in small scale, intermediate and modern industrial firms, assuming the availability of materials and demand, for expanded employment and credit for expanded capital assets and employment (94) is indicated in appendix 19. Capacity utilisation of labour and capital in a range of firm sizes, as analysed with the situation facing Accra, the study for Accra, 1973, as shown in appendix 20, demonstrates a lower capacity utilisation for firms with no wage workers and those in the 1-9 wage employee categories as compared to other sectors. 'Small firms tend to use their capacity less fully by all definitions, partly because of the nature of small businesses and partly because of the policies in effect'. The burden on small scale production of less favourable raw materials supply, market demand and policy environment is also noted as important (cross reference, Harriss, 1982). Based on this assumption, the study assumes that capacity utilisation for firms with 1-9 workers could have been raised by 120%.

Earnings

Remuneration in the small scale sector (non wage workers and enterprises with 1-9 workers) is slightly higher than ¢26.00 (Cedis) per month (the enforced minimum wage for 1973)(see appendix 21). At the same time, the lower labour costs in these enterprises produce a higher cost of capital relative to labour in these enterprises.

Steel argues that 'employment is quite responsive to the real wage rate', although, "This does not necessarily mean, however, that wage decline can conclusively be cited as the explanation for Ghana's relatively good employment growth performance'. (149)

Linkages and Constraints on Expansion

Financing and raw materials supply were amongst the important 'backward linkages' identified in this study. According to data provided in the Accra Survey 1973, the development of intermediate and informal categories of manufacturing businesses appeared to depend on financing from informal sources: either personal savings or loans from relatives, with the importance of personal savings increasing in favour of the smaller enterprises with 1-9 workers. (See appendix 22).

Raw materials and spare parts to facilitate production, are either imported or obtainable from large-scale enterprises. Estimates of the 'imported share of raw materials and spare parts for small-scale manufacturing' in Accra (1973) for selected branches (see appendix 23) indicates a high average import content for raw materials (61%). However. this appears to 'underestimate ... the true dependence of small-scale firms on imports because both milling and cement products in fact depend on imported materials (wheat, clinker) that are simply processed in Ghana' (127), while it also masks variations between branches, such as the 'extremes' seen in printing and jewellery, branches which almost totally depend on imported raw materials, to furniture and metal products which are relatively less dependent (127). The high average for imported spare parts supply (91%) for these same branches is in general indicative of the consistently high dependence on imported spare parts in these branches, with the exception of the cement products branch. From this, Steel concludes:

> 'smaller firms must depend on larger ones for these imported materials and parts' ... 'Half of the smaller enterprises depend on larger importing firms for most of their raw materials, primarily firms in the same industry that have import licenses. (and) (T)hese firms are also the major supplier of spare parts to 82 per cent of the smaller ones'. (127).
>
> (See appendix 24)

A summary of constraints on expansion according to subjective opinions gathered from enterprises interviewed in the Accra small-scale employment survey indicated that 'lack of sufficient raw materials or spare parts' and 'insufficient working capital' were cited as the mator constraints by some 52% and 42% of these enterprises respectively. (125).

Data Problems

Amongst the range of data problems encountered in the study are the following:

a) The residual estimation of the informal sector miscalculated its size.

b) The problems in measurement of mobile informal sector activities errs on the side of underestimation.

c) The assumed measurement of apprenticeship and family labour in particular as 'half a worker' underestimates the labour contribution of these workers and the small scale sector.

d) Non-response and underenumeration as in the case of the derivation of input efficiency data, overestimates true utilisation rates for total small firms in each industry. (205)

e) The census definition of employed does not account for periodic unemployment.

f) Additionally, in terms of output/productivity data:

> 'An important qualification to comparisons between size groups that involve capital is that working capital has been excluded, for lack of sufficiently consistent or precise data. If, as seems reasonable, smaller firms have a higher proportion of their capital in the form of stocks and other working capital, then these figures understate their true capital intensity relative to larger firms'. (102).

Conclusion

The study suggests that 'Improved managerial and organisational ability, learning by doing and economies' of scale will positively influence output and productivity changes more than the wage constraint (172). Market and raw materials constraints on expansion are not, however, minimised. From the data, the 'informal sector' is characterised as the lower productivity side of the small-scale sector. While the study intimates that the relative modernisation of this sector is a key to better productivity, it suggests that the intermediate sector is a solution to the 'employment output-trade-off'. This sector is seen as possessing the optimum conditions to simultaneously secure appreciable income-earning opportunities and adequate productive-efficiency levels.

GHANA: KUMASI

'The Informal Manufacturing Sector in Kumasi' by George Aryee (ILO, 1981) In 'The Urban Informal Sector in Developing Countries. Employment, Poverty and Environment.' (ILO, 1981), ed. S V Sethuraman.

Introduction

The Kumasi study, unlike most of the earlier 110 city level studies, focused specifically on manufacturing and repair activities. This study was concerned with the employment capacity of the informal sector in terms of the high proportion of apprenticeship labour in this branch, as well as providing estimates of the capital efficiency within it.

Definition

The study used the size criteria, identifying under 10 workers per enterprise as a means of distinguishing informal sector establishments (although some of the data was presented in terms of value of capital invested).

Sampling Base and Measurement

The sample base comprised a selective sample cf 298 enterprises in the manufacturing and repair activities in Kumasi, bypassing the importance of Kumasi as a commercial centre in its regional context, and therefore as an important area of tertiary sector employment (90). The bias in sampling design/base led to a higher than average size of enterprise and representation of apprentices (93).

The sampling technique involved a three -stage sampling design consisting of the identification of visible areas of informal sector geographic concentrations and a priori selection of relevant informal sector enterprises, and finally, actual selection of manufacturing and repair categories of activities.

Size and Sectoral Composition

'Of about 30,000 persons engaged in manufacturing and motor repair activities in 1970, only a third was estimated to be in the formal sector' (90). The branch composition of the sampled manufacturing employment was distributed as follows: 40% in textile and leather; 73% in food processing; 14% in wood and related activities; and 15% in vehicle repair and maintenance. (90) Table 5.1 below shows the size distribution of manufacturing enterprises in percentage terms.

Table 5.1

Size distribution of enterprises by activity
(per cent)

ISIC code	Activity	Number of persons engaged per enterprise					No. of enterprises
		1	2-4	5-9	10 +	total	
9513	Motor repair and maintenance	2.7	18.9	60.8	17.6	100.0	74
3813, 3819	Metalworking	15.3	40.0	35.0	10.0	100.0	20
3811	Blacksmithing	11.1	77.8	11.1	0.0	100.0	9
3311	Carpentry	14.7	38.2	35.3	11.8	100.0	34
3220	Tailoring/ seamstressing	16.9	64.8	16.9	1.4	100.0	71
3319	Woodcarving	14.3	42.9	42.9	0.0	100.0	7
3320	Cane weaving	33.3	44.4	22.7	0.0	100.0	9
3214	Carpets/ doormats	0.0	40.0	60.0	0.0	100.0	5
3233, 3240	Footwear/ leatherware	24.6	63.8	10.1	1.4	100.0	69
All activities		14.8	47.3	30.9	7.0	100.0	298

(Source: Sethuraman, 1981, 93)

Labour Structure

Fifteen per cent of the enterprises had no employees or apprentices, almost half of the sample had between two and four workers and the rest over five workers, with average size of the informal sector enterprise close to 4.5 persons (92). This is attributed to the exclusion of non-manufacturing from the sample. Some 17% of the sample, meanwhile, had more than 1 person besides the entrepreneur (92). Much of the distribution in the middle range of activities were concentrated in textile and leather manufacturing enterprises, while half of the larger ones were in fitting. The increased labour absorption activities in these branches is no doubt due to the fact that 'activities with a greater scope for training employed more persons, mainly as apprentices' (92). Unpaid family workers, meanwhile, existed only in 10% of the enterprises (92). The data, therefore, shows that in Kumasi, wage and apprenticeship labour is relatively more important, at least in the manufacturing sector, and additionally that labour absorption varies within branches production units.

Age Distribution of Labour Force

The Kumasi informal sector is characterised by its youthful participants. Younger persons comprised a high 40% share in the labour force. Only 25% of heads of enterprises were below 25 years of age, and 64% between 25 and 44 years, the median age of entrepreneurs was 28 years, with those in blacksmithing, carpentry and fitting, older (91). The differential age distribution in activities would therefore seem closely related to the retention of craftmanship skills as a stable source of work over time.

Output Related Data: Capital Usage in Enterprises

The distribution of sample enterprises by level of fixed capital (see appendix 25) shows a median value of investment at original cost of 400 cedis per enterprise (or US$ 330); the average, meanwhile, is larger, at 780 cedis (or US$ 680), suggesting significant variations in capital between enterprises (93). The exclusion of working and fixed capital from the capital measure seems to negibly affect median values 'since most enterprises are located in simple and temporary structures' (93).

Output and Productivity

Table 5.2 shows the average size of enterprise, amount of capital, gross output, and value added per enterprise and per worker in selected activities. The average amount of capital per worker shows considerable variations exist between different activities, in terms of the amount of capital, with a high of 396 cedis per worker in carpentry, and a low of 58 cedis per worker in footwear and leather manufacturing.

Table 5.2

Capital, output and value added per enterprise and per worker in selected activities

Selected activities	No. of enter-prises	No. of persons	Per enterprise			Per worker		
			Fixed capital	Weekly gross output	Weekly value added	Fixed capital	Annual gross output	Annual value added
Fitting	74	5.35	1 479	251	90	276	2 440	874
Metalworking	20	4.40	1 575	260	132	358	3 073	1 560
Blacksmithing	9	3.44	1 362	144	78	396	2 179	1 180
Carpentry	34	4.26	347	122	49	81	1 487	598
Tailoring	71	3.14	646	102	58	206	1 690	962
Footwear and leather manufacturing	69	2.86	165	250	112	58	4 545	2 038
All activities (including others not shown)	298	4.46	778	193	87	174	2 250	1 014

Note: All values in cedis. One cedi is valued at approximately US$0.87.

(Source: Sethuraman, 1981, 96)

The average value of output is shown to be about 193 cedis per worker; varying, however, between enterprises with 102 cedis in tailoring to 260 cedis per week in metal working (94). The study identifies a correlation between value added per worker and capital per worker, for instance, leather manufacturing 'takes only 58 cedis of capital per worker to generate a value of over 2,000 cedis per worker per year; it seems to be not only least capital intensive but also most productive' (94).

Output Comparisons with the Formal Sector

By comparison with the formal sector, the average capital per worker at original cost for selected informal sector manufacturing is described in the study as comprising 'only a small fraction of that prevailing in the formal sector' (94). The average capital per worker at original cost in selected formal sector manufacturing in 1970 is thus shown as follows: food manufacturing, 13,800 cedis; textiles, 8900 cedis; chemicals, 6200 cedis; paper products, 3900 cedis; wood products, 1000 cedis; and furniture and printing, 1500 cedis (94).

Despite the differences in comparability of data between formal versus informal, as between inter-branch activities, the study concludes: 'the informal sector in Kumasi (is) significantly more efficient than the larger formal sector firms' (98).

Capital Accumulation

Based on the assumption that old enterprises go through a similar process of growth, and evidence of progressive increases of enterprises with age, the study deduces that: ' informal sector enterprises tend to accumulate more capital as their duration in business increases' (99). The progressive growth of enterprises with age was shown in the evidence that average size of firms under 3 years was only 3.26 as compared to 4.92 for older enterprises (99). (Half of the enterprises were under five years of age; 11% under two years old, while 16% were between 2 and 3 years old, 13% between 3 and 4 years old. Over 12% were between 4 and 5 years, and the remaining over 5 years old) (92).

To illustrate the accumulation potential over time, the average of sample enterprises works out to be 4 years in the bottom tenth of the distribution of enterprises. This potential does apparently vary by branch: the growth of fixed capital formation in metal working and carpentry is faster than employment growth by 30 to 40%, while footwear, leather manufacturing and tailoring are areas with greater employment as opposed to capital growth capacity (99).

Capital Labour Ratios

Turing to capital labour ratios over time, the data for the sample as a whole shows increases with the age of business: 147 cedis for enterprises under 2 years; 161 cedis for those between 2 and 3 years; and 177 for those above 3 years (99).

Enterprises Earnings

As seen in table 5.3 below, output, value added and capital per worker varies inversely with the size of firm. Table 5.4 , showing value added and employment per unit of capital by size of investment (for enterprises with a million cedis in investment), shows an inverse relationship between the amount of value added and employment with increases in firm sizes (98).

Table 5.3

Output, value added and capital per worker by size

Size group (no. of persons per enterprise)	Per worker (cedis)		
	Output per week	Value added per week	Capital
1	118	68	318
2-4	61	29	218
5-9	33	14	152
10 +	28	9	136
All	43	19	174

(Source: Sethuraman, 1981, 97)

Table 5.4

Value added and employment per unit or capital, by size of enterprise for an investment of 1 million cedis

Size group (no. of persons per enterprise)	Value added per year (millions)	Employment (persons)
1	10.69	3 145
2-4	6.65	4 587
5-9	4.60	6 579
10 +	3.31	7 353
All groups	5.46	5 747

(Source: Sethuraman, 1981, 97)

Earnings Data

While the earnings of the 'master' (entrepreneur) rose with the numbers of apprentices employed, it was also given that 'The fact that masters without any apprentice also earn 68 cedis per week suggests that the informal sector generates substantial incomes even if it does not rely on cheap labour in the form of apprentices' (94).

The average earnings to entrepreneurs was thus given as 80 cedis per month before taxes. The study further correlated higher gross earnings of entrepreneurs with education, comparing the 60 cedis per week earned by those with primary and middle level of education respectively (96-97)

The significance of apprenticeship labour makes it necessary to consider the compensation give to these workers, on the average 2-4 cedis per week, representing 'token pocket money plus food provided by the master'. The median value of 2.2 cedis per week given to apprentices as compensation was thus a reflection of the minimum compensation give to half of the apprentices.

Linkages

Of the sampled enterprises, only 90% obtained raw materials and service inputs from retailers, either individuals or small shops: some 2% discarded materials, while 7% derived input requirements from a combination of the above.

As a complement to the above data, the study estimates the derivation of input expenses to test the indirect nature of foreign informal sector linkages. From 298 enterprises, it estimated that only 30 obtained more than 50% of their value added from the modern sector. This was corroborated from estimates from the entire sample putting only 9.4% of total expenditures as belonging to the modern sector (98). Faced with the evidence of weak informal sector/formal sector links to substantiate the suspicion that: 'Ghana depends heavily on imported raw materials and inputs even in informal sector manufacturing ...' (98) the study attributes a significant amount of value added to middlemen and intermediaries.

> 'For example, in one location, Anglola, merchants buy wood in bulk quantities from the sawmills and sell them to carpenters at much more than twice the ex-factory price in the formal sector. Similarly, traders secure bulk orders for furniture from schools and similar formal institutions and obtain their furniture requirements from the informal sector at low prices' (98).

Concluding Remarks

Following from its findings of limited direct formal/informal sector linkages, and the evidence of expansion over time of older enterprises, the study deduces that, 'the informal sector enterprises in Kumasi have been generally successful in overcoming the barriers to expansion' (100). At least one part of this causal relation, the optimistic expansion abilities of informal sector firms, however, is misrepresented since the sampling of existing enterprises preselects successes. In pointing out the differential employment absorption rates in various branches of manufacturing industry, the Kumasi study underlines the importance of looking at the branch although not pinpointing the production line as a more specific area of study. It would appear, however, that apprenticed labour may play a far more productive role in the economic success of many informal sector enterprises than is recognised in the study.

UPPER VOLTA: OUAGADOUGOU

'Success of Small Entrepreneurs in the Informal Sector of Ouagadougou (Upper Volta)'

by de meine Pieter van Dijk - Seminar on 'La Petite Production Marchande en Milieu Urbain Africain', March 1979, Paris

This empirical description of the informal sector of Ouagadougou is set in the situational context of a poor economy, in which 'The formal sector is very little developed' (1). Although this is a brief seminar paper, it includes summary findings on earnings and productivity measures.

Definition

This study drew on two of the seven informal sector characteristics mentioned in the ILO Kenya Report (ILO, 1972). Much of the empirical findings of the informal sector discounted the particular application of family ownership, ease of entry, use of indigenous resources, informally acquired skills, and the adapted technology portions of the definition, scaling down the criteria to small-scale operation and labour intensiveness. The operational criteria used to define 'small-scale' also, however, diverged from the ILO definition. The identification of small-scale enterprises relied on a 'floating' criteria: '10 or 15 employees as an upper limit, and/or $500 investments' per worker in addition to the main 'small-scale' and labour intensive criteria used. The unregulated aspect was used as a decisive measure, based on two indicators of minimum wage enforcement and legal licensed status of the enterprise (4).

Size and Sectoral Composition

As shown in table 6.1, the average size of the informal sector of urban Upper Volta is estimated at 73.2% of the total active labour force or 187,000 as compared to 16.8% in the formal sector. The informal sector size for Ouagodougou is estimated at 66,000 persons (2).

Table 6.1

Informal and formal sector employment in urban Upper Volta (1977), Ouagadougou.

	Urban Upper Volta		Ouagadougou
Sector of Activity	No	Percentage	No
Informal Sector	187,000	73.2	66,000
Formal Sector	42,000	16.8	15,000
Unemployed	21,000	10.0	9,000
Total Active Urban Population	250,000	100.0%	90,000

These figures represent an extrapolation of percentages from column (3) as presented by van Dijk (1979).

The structural composition of the informal sector of the capital city, Ouagadougou, is shown in table 6.2, with classification into handcrafts, artisanal artisans, construction and services trade, transportation sectors; table 6.2 is limited in that it only includes 50% of the urban total shown in table 6.1.

Table 6.2

Importance of informal sector activities in Ouagadougou, 1976

Subsector/activities	Number of enterprises Pallier (1970)	Estimation Van Dijk	Average employment Pallier (1970)	Survey Van Dijk	Total employment
Handicrafts					
Alluminium caster	-	8	-	2.8(2)	23
Beerbrewer(female)	386	543	4.4(8)	-	2,932
Carpenter	285	382	2.5(12)		1,337
Dyer(female)	27	36	2.8(6)		137
Furniture maker	-	35	-	4.6(26)	161
Mod.blacksmith(welder)	58	78	2.8(6)	5.8(1)	296
Potter(female)	-	15	-	3.6(7)	54
Shoemaker	56	75	1.2(8)	3.6(1)	218
Strawweaver	-	100	-	2.2(8)	220
Tailor/embroidery	444	535	2.8(16)	3.5(36)	1,411
Trad.blacksmith	50	67	0.8(5)	-	121
Weaver	79	106	0.2(5)	2.3(42)	186
Artistic artisans					
Batikproducer	-	15	-	3.6(7)	54
Bronze caster	70	94	3.0(6)	3.6(20)	357
Jeweller	64	86	2.4(12)	3.6(2)	301
Construction sector					
Brickmaker	-	100	1.5(2)	5.6(23)	405
Mason	-	100	-	5.6(3)	560
Painter	79	106	2.8(5)	-	403
Plumber	36	48	2.5(2)	-	168
Services					
Bicycle/motorbikerepairman	286	366	1 (8)	2.8(11)	1,025
Carrepair mechanic			2.6(6)	-	
Electrician	81	109	1.3(2)	-	142
Millet grinder	43	58	1 (4)	-	116
Radio repairman	35	47	1 (5)	2.8(12)	113
Watch repairman	8	11	0.5(2)	-	17
Subtotal artisanal sector					10,757
Trade	-	5,000	-	2.0(58)	10,000
Transportation(by product)					
of goods(handdrawn car)	-	500	-	1.8(11)	900
of water(handdrawn car)	-	250	-	1.8(10)	450
of wood(donkeydrawn car)	-	1,500A	-	1.8(10)	2,700
Subtotal transportation					4,050
Total					24,807

Note A Le Développement voltaïque(1976)
Our estimations are based on observation and extrapolation of Pallier's figures with a growth percentage of 5 percent, the same as applied for the formal sector, unless other information was availble. The last column is the product of our estimation and the average of the averages of Pallier and Van Dijk, concerning employment. Pallier's figures were increased by one, to count for the owner. The figures between brackets refer to the sample on which the estimation is based. A hyphen indicates that the activity was not taken into consideration.

(Source: van Dijk, 1979, 3)

The average entrepreneur employed 2 persons but at least 40% of the sampled entrepreneurs were own account workers, 60% employed apprentices, and 25% wage workers (7). A summary of characteristics of the informal sector labour shows that the age of entrepreneurs in the active labour force varies. Most have been own account workers, working on average 6 years, and previously farmers. Women seemed to dominate the weaving, pottery and small trade activities.

Capital Outlays, Rates of Return

Investments in enterprises were on the whole largely limited to an average of initial 'seed'/starting capital of 42,500 F CFA, the average since the cummulative investment averages amounted to 60,000 F CFA at the time of the survey (7). (No exchange rate given). Investments varied from 16,000 (weavers) to 17,500 F CFA (in the construction sector).

The average rate of return on capital for the entrepreneur was put at 5%, (based on the assumption of 'income from labour equals the wage of his wageworker' (7). The capital turnover figures also ranged from 6,200 F CFA (10)[9].

Earnings

The earnings of labour in Ouagadougou varied from wage workers to low paid apprenticeship labour. According to the survey, wageworkers received only 3,600 F CFA per week, and apprentices 400 F CFA per week. The average owner received twice that of wage workers with 6,600. The entrepreneurs earnings did, however, range at any one point in time, from 3,000 C CFA a week for straw weavers, to 17,500 F CFA per week for construction sector workers facing erratic incomes in employed periods (7). By comparison, formal sector wages were lower. According to the study then the average entrepreneur would therefore earn more than formal sector wages, the legal minimum wage of 3,000 F CFA per week and average wage on the whole private sector of 5,000 F CFA (7). At the same time, however, the average wage earnings of apprentices and wageworkers would just about be on par with the legal minimum wage.[10]

Entrepreneurs 'learnt something' from the formal sector besides accounting. (This is left unspecified due to inadequate relationship with non-continuous variables presented). It is clear that this study does, however, misinterpret the meaning of 'linkages' as construed in this duel economy context. Despite probable sampling error, one of the interesting facts from this study concerns the estimated magnitude of the informal sector.

ZAMBIA: COUNTRY STUDY

"The Informal Sector and Zambia's Employment Crisis', by David M Todd and Christopher Shaw. "Journal of Modern African Studies", 18, 3 (1980)

Introduction

In the light of the Zambian Government's Development Plans to overcome unemployment (by an expansion of self-employment possibilities), this country level study draws attention to the possible role of the 'informal sector' of the Zambian economy in absorbing the unemployed. Relevant data provided concerns the current size and composition of the informal sector, the possible growth of formal wage employment in urban areas, and the flows into the labour force particularly from the educational system.

Definition of the Informal Sector

The article takes into consideration the following criteria in order to define the informal sector: size; membership according to age, education and experience; and its present range of activities (418). Although no precise or comprehensive definition of the Zambian informal sector has yet to be reached, it is composed of small-scale businesses, established by self-employed persons, often operated with no employees receiving cash 'wages" (418). The article does not include rural businessment or farmers, only self-employed workers.

Sampling Base

Data is provided by the 1963 and 1969 Census figures. Information was also based on various studies conducted in the 1970s on established low-cost housing estates. The sampling techniques for the data presented were unavailable.

Sectoral Composition

66% of those in the formal sector were engaged in production and related activities, compared with only 14% of the self-employed. However, 73% of the self-employed were engaged in selling, compared with 11% of those in the formal sector (423). The small number of manufacturers and repairers within the informal sector comprises of those involved in carpentry and tinsmithing; construction; and car, radio, shoe and watch repairing.

Data suggests that 10-15% of urban working males are to be found in the informal sector, with the proportion rising some 5% when both sexes are considered. (419)

Evidence from various surveys of low-cost settlements in Lusaka suggests that the informal sector is mainly comprised of those over 30 years of age (giving indication to the importance of savings, urban experience and contacts, in order to establish a successful enterprise). Most heads of enterprises in Lusaka (Zambia) had been employed in the formal sector prior to entering the informal sector to set up their own business.

Data Problems

There was insufficient data provided on the sampling base. Information was vague and very broad, with no specifics given to pinpoint the exact number of participants in the study. Data was not provided on the amount of capital invested and value added, on the amount of earnings or income generated.

Insufficient information was given on the backward and forward linkages - source of raw material, market for finished products.

Conclusion

The urban informal sector in Zambia is sizeable with heads of a mature age but with a generally lower educational level than that of the formally employed. Marketing, food processing, and selling seem to dominate the activities of the sector.

> **"The informal sector is characterised by a concentration of activities into a relatively narrow and non-innovative range, and by a predominance of older people ... ill-suited to accommodate the annual supply of 22,000 new urban job seekers ...' (425)**

As a result, there is a need for expansion into other areas such as recycling of scrap materials, street services (cigarette selling, car washing, etc), in order to accommodate the influx; however, putting pressure on the Government to revise its local and national laws viz street side activities which are currently illegal.

NIGERIA: KANO

'The Informal Sector in a Small City: The Case of Kano (Nigeria)'

by A L Mabogunje and M O Filani (ILO: 1977) in "The Urban Informal Sector In Developing Countries" (Geneva, ILO: 1981). ed S V Sethuraman[11]

Introduction

This city level study examines the informal sector in the context of Kano, a medium-sized, primate city with about 420,000 population in 1972, set in a heavily populated rural area (83). The contribution of the 25% to 30% migrant population to this city (83) is considered an important determinant of informal sector size, and consistent with the 35% labour participation rate of migrants in the informal sector (84). In terms of descriptive information, this paper contains very little on the size distribution, earnings or output in the informal sector. The case study distinguishes itself, however, in being one of the rare instances where comprehensive enumeration of the informal sector was attempted, thereby reducing errors in size estimation.

Definition

According to the working paper document forming the basis of this article,

> 'an attempt was made to distinguish the informal sector activities using two major criteria. These criteria define informal sector activities to include:
>
> a) all one-man enterprises; and
> b) all enterprises employing not more than 10 persons.
>
> In other words, we define informal sector activities as those in which all participants are not more than ten. This definition stems from our general agreement with the view that one of the major distinct characteristics of the urban informal sector is the smallness of the enterprises or establishments which make up the sector'. (ILO: 1977, 127-8)

The earlier study thus drew on the defining methodology of the Kenya Report.

Size/Sectoral Distribution

Assuming the average enterprise size (of sampled enterprises) of 1.8, the informal sector labour force provided income earning opportunities for at least 25%, or some 53,320 persons (83). Table 8.1 below shows that the 'ratio of workers per establishment varies from 1.0 in repair activities tc 2.6 in processing'. (ILO 1977: 77). The ratio of workers ot enterprises (see appendix 26) also shows, however, that this figure is exceeded in certain branches. For instance, brickmaking branch has an average of 3.81 workers to the enterprise, and the bakery branch 4.86 per enterprise. (ILO: 77).

Table 8.1

Average number of workers per establishment in the informal sector

Class of Enterprise	Total Number of Establishment	Total Number of Workers	No of Workers er Establiment
Processing	37	95	2.6
Repairs	31	33	1.1
Personal Service	76	117	1.5
Agricultural Service	22	30	1.4
Trading & Other Service	69	122	1.8
Technical Services	76	155	2.0
Fabrication	163	320	2.0
Unclassified	31	31	1.0
Overall	505	903	1.8

Source: Field Survey, 1976.

(Source: ILO, 1977, 77)

Sampling Base and Measurement

The sampling procedure adopted entailed a comprehensive pre-sampling of informal sector enterprises of some 6,665 enterprises in the city[12], 505 of which provided the basis for a detailed inquiry on non-trade activities. The procedure for selection of sampled activities was as follows:

> "All activities which recorded below 20 establishments were selected; from each of those which recorded between 20 and 200 establishments, 20 were selected and from those which had above 200 establishments, 50 were selected. In all ... there were 3,963 establishments engaged in trading activities and 1,132 establishments in tailoring. From each of these, 50 establishments were selected.' (ILO 1977: 130-131).

Although the initial sampling revealed a bias towards trade enterprises in the 4000 trade enterprises identified, the actual sub-sample selectively focussed on the non-trade categories of manufacturing and repair services, comprising 70% as compared to only 14% in trade activities (83).

In the case of Kano, the bias against women workers in the sample was explained as attributable to the dominance of the Moslem religion, as opposed to the consequence of sampling technique (84). With males comprising 89% of the participants, the distribution of women workers was concentrated in certain activities such as: sewing, milling, hair dressing, where women accounted for more than 60% of informal sector participants (84).

Size/Sectoral Distribution

Assuming the average enterprise size (of sampled enterprises) of 1.8 the informal sector labour force provided income earning opportunities for at least 25% or some 53,520 persons (83). Table 8.1 (1976) below shows that the 'ratio of workers per establishment varies from 1.0 in repair activities to 2.6 in processing' (ILO 1977:77). The ratio of workers to enterprises (see appendix 26), also shows however, that this figure is exceeded in certain branches. For instance, brickmaking branch has an average of 3.81 workers to the enterprise, and the bakery branch, 4.86 per enterprise (ILO:77).

Table 8.1

Monthly Revenue by type of Enterprise

REVENUE N	1-10	11-20	21-50	51-100	101-200	201-500	501-1000	1001-5000	Above 5000	Total No.
Processing	13.5	-	37.8	27.0	13.5	8.1	-	-	-	37
Repairs	19.4	19.4	38.7	22.6	-	-	-	-	-	31
Personal Services	34.2	1.3	36.8	15.8	10.5	1.3	-	-	-	76
Agric. Services	18.2	-	13.6	45.5	9.1	9.1	4.5	-	-	22
Trading and Other Services	26.0	4.3	11.6	17.4	11.6	11.6	8.7	8.7	-	69
Tech. Services	28.9	1.3	15.8	31.6	15.8	6.6	-	-	-	76
Fabrication	21.4	11.0	21.5	27.0	11.0	4.3	2.5	0.6	0.6	163
Unclassified	22.6	6.5	29.0	12.9	6.5	16.1	-	6.5	-	31
OVERALL	24.4	6.1	24.0	24.4	10.9	6.1	2.2	1.9	0.2	505

Source: Field Survey, 1976.

(Source: ILO 1977: 77)

Labour Structure

As the 1981 Kano study shows, 'self-employment is a major characteristic of the Kano informal sector.' (87). The average persons per enterprise was 1.8 (87), while two-thirds of the sample included one person enterprises (87). Variations between activities were however, revealed as follows: bakery, 5.3 persons; construction, 4 persons; leather manufacturing, 3.8 persons; welding, 3.4 persons; roadside mechanics and electrical workers, 3 persons. The inflated size of the larger enterprises were also attributed to the employment of on average 1 apprentice and 1 journeyman (87) (derived from the employment of 565 heads of households, 187 journeymen, and 151 apprentices).

Migrant Status

The proportion of wage workers among migrants was relatively smaller as compared to 'natives', since 19% of the migrants were typified as apprentices. The slightly higher proportion of apprenticed migrants in the informal sector to 'native' Kano informal sector participants (19% as compared to 16% was said to contribute to a relatively smaller wage labour force among migrants(85). From a longitudinal prespective of migrant job/occupational mobility, the previous work status of migrants showed that 59% had worked before, half of them as farmers or traders, while the remaining 41% were unemployed (85). Upon arrival in Kano, 75% of migrants had not changed their jobs, among the reasons given being the satisfaction with current jobs (60%), although this is qualified by reportage that 55% of all were willing to change occupations if skills education was provided and incomes increased (85).

Age Distribution

The age distribution of informal sector participants primarily covered the age brackets 15-44 years, with an average age of 26.5 years, although more than 15% of informal sector participants were under the age of 14 years, concentrated particularly in trade and other services (eg painting, mechanics and welding) (84). Agricultural services (livestock keeping and fishing had some 40% of participants over the age of 45 (ibid).

Location of Enterprise

The majority of the sample, 76%, operated in fixed locations, the remaining, mainly traders, in variable locations. Whilst two-thirds of those in fixed locations operated in residential structures, 21% did so in commercial buildings and the remaining in open sheds and other structures (86).

Output Data

Enterprises sampled were typically labour intensive, with average initial capital outlay for enterprises being small (87) (see appendix 27). The median value of capital was only ₦50 or about US$80, while the mean was ₦282, 'suggesting enormous variations in capital between firms' (87). Activities identified with lower capital were in agriculture, personal services and repair services. The median value per enterprise was only ₦50 (or US$80) compared to a corresponding mean of ₦28. The average capital labour ratio of ₦157 is described as comprising 'only a fraction of the capital investment required per worker in certain formal sector activities in Kano' (87, as seen in comparable formal sector figures provided as follows: tanning ₦2000; groundnut processing ₦2000 to ₦4000; weaving ₦1200; steel fittings ₦1200; and soap manufacturing ₦200 (87).

Earnings Data

As shown in table 8.2, the monthly revenues received in the enterprises were mainly less than ₦50. The explanation given for these low revenue levels is the:

> 'strong relationship between capital invested in the informal enterprises and the monthly revenues accruing to them. Generally, the higher the capital, the greater the revenue yielding capacity of an enterprise, all other things being equal. Since capital investment in various activities is low, their capacity for yielding revenue is bound to be equally low. Activities in trading, processing and fabrication which had huge capital outlay also recorded high monthly revenues.' (ILO 1977: 66)

(Source: ILO, 1977, 67)

Wages and Earnings

Earnings in the informal sector are described by the level of monthly income received by participants. As seen in table 8.2 earnings varied: 36% of the participants classified either as apprentices or unpaid family workers, received 0 (zero) income; 58% of informal sector participants received above N60 per month or the legal minimum wage (86). However, some 60% of female participants (11% in the sample) earned incomes below the minimum wage pointing to the:

> 'unequal earning opportunities between men and women; ... explained in terms of the activities in which women tend to participate.' (86)

Of the 70% of migrants described as income earning informal sector participants, only 47% had incomes above N60 per month in contrast to 58% among all participants (86). Accordingly, the median level of income for females was under N50 per month, for migrants N60 per month compared to N60 for all participants. Income differentials between males and females would therefore seem to be more significant than migrant/non-migrant differentials.

> 'Given the average wage levels for the informal sector, as above, comparisons with formal sector earnings of N800 per year in government, and N520 per year in large scale industry in 1972 are suggestively favourable.' (86)

Linkages

Linkages between the formal and informal sector in Kano were best described as indirect. The pattern of forward market linkages was set by the fact that 87% of all sales were directed to households, while only 10.5% were directed to small enterprises (as shown in table 8.3 below).

Backward linkages were also negligible. On the one hand, the informal credit and finance pattern set up denied any significant formal sector relationship: 70% of enterprises relied on personal savings for investment expenditure. Borrowing from friends and relations was a source for the major balance, and only 1.4% of the enterprises had access to bank credit (87). Raw materials supplies were termed as indirectly linked to formal sector since retail traders played an intermediary role (87).

Table 8.3

Purchasers of Informal Sector Products

Purchasers Class of enterprise	Individual Households	Small Enterprises	Large Enterprises	Government Agencies	Others
Processing	89.2	8.1	-	-	2.7
Repairs	100.0	-	-	-	-
Personal services	97.4	2.6	-	-	-
Agricultural Services	72.7	27.3	-	-	-
Trading & other services	82.6	11.6	-	-	5.8
Technical services	86.8	10.5	-	-	2.6
Fabrication	84.7	12.9	0.6	0.6	1.2
OVERALL	87.0	10.5	0.4	0.4	1.8

Source: Field Survey, 1976.

(Source: ILO, 1977, 73)

Concluding Remarks

The Kano study distinguishes itself firstly in approaching a more accurate reading of informal sector size than other studies relying on a residual estimate; and secondly in its representation of the Kano informal sector as a relatively stable source of employment judging by the longevity of job tenure for some 75% of migrant informal sector participants, who had not changed their jobs since they migrated (85); as well as a reasonable source of income earning potential on par with some formal sector wage levels (with the exception of typically female income earning activities). In the latter sense, then, the Kano case study empirically contradicts the image of the informal sector as operating in a highly competitive market, and one with substantially less income potential than the formal sector. In other terms, the Kano study did, however, confirm the findings of other studies, portrayed the formal/informal sector backward linkages as an indirect one relying on intermediaries as in trading activities.

NIGERIA: LAGOS

'Human Resources and the Lagos Informal Sector' by O J Fapohunda

in 'The Urban Informal Sector in Developing Countries", ed S V Sethuraman

(Geneva: ILO, 1981)

Introduction

As part of the ILO city studies series, this study focused on enterprise aspects of human resources utilisation and development in the Lagos informal sector. As indicated in the representation of migrants in 55% of the entrepreneurs in the sample (71), migration was seen to play an important role in the growth of the informal sector. Amongst the relevant data included are: estimates of sectoral distribution between broad sectors of primary industry (agriculture, utilities and mining), services, trade and manufacturing with a further breakdown of activities within manufacturing sectors. Apart from this initial sectoral distribution, data on earnings and output within the informal sector were provided at the enterprise level.

Definition of the Informal Sector

No clear definition of the informal sector is prescribed in this Lagos study. However, the guidelines for sampling indicated in the base report for this study by the same author , Lagos, Urban Development and Employment (Geneva, ILO: 1978, 60), suggests that the main aspect of the ILO definition incorporated in the study was the size criterion of under 10 workers per enterprise.

Sampling Base

Taken from a sample population of 2074 enterprises, the Lagos study included a larger sample size than most other studies due to its inclusion of extra industrial categories. A distinguishing feature characterising the selected sampling population represented was its bias towards the manufacturing and service sectors of the Lagos informal sector.

The sampling technique involved a two-stage sampling design based on the delimitation of the city into 200 enumeration areas, from each of which 10 enterprises were chosen randomly. The study further distributed the sample between the streets within each stratum (Sethuraman 1981, 26).

Size and Sectoral Composition

The Lagos study assumes half of the working population of 900,000 (1978) as belonging to the informal sector (82), assuming a labour activity rate of 45% within Lagos' population of 2 million.

As indicated in table 9.1, the sectoral composition of the Lagos informal sector indicates the predominance of the manufacturing services sector, with a distribution of 40% of the enterprises there as against 15% in services and 31% in trade (including restaurants) (70). Although these major breakdowns are provided in the study, the enterprise distribution is broken down within the productive sector into branches, the foremost being textiles, and leather enterprises, other productive enterprises including a genral primary industries category, food, beverages and tobacco, wood and furniture, paper and paper products and fabricated metal and machine equipment.

Table 9.1

Distribution of enterprises by main activity groups

Type of industry or economic activity group	No. of reporting enterprises	Percentage distribution of enterprises
Primary industries	18	0.9
Food and beverages and tobacco	17	0.8
Textiles and leather	549	26.5
Wood and furniture	108	5.2
Paper and paper products	58	2.8
Fabricated metal and machine equipment	51	2.5
Others manufacturing	48	2.3
Utilities	44	2.1
Construction	22	1.1
Wholesale trade	116	5.6
Retail trade	526	25.4
Transport and storage	74	3.6
Communication and social and personal services	320	15.4
Inadequately defined activities	123	5.9
Total	2 074	100.0

(Source: Sethuraman 1981, 70).

From a total of 1977 enterprises, the informal sector generated employment for a total of 4161 full-time workers including heads, employing 2.10 persons per enterprise (73). The number of persons employed per enterprise did, however, range from 1 person for 50% of the cases to 2 workers for 26% of the cases (73). 25% had 3 or more persons, 'Though full-time regular workers was the dominant category, some 3-5 per cent of the sample employed part-time male workers and 0.7 per cent part-time female workers. In addition, a few resorted to hiring casual workers as well. Nearly 90 per cent of the employment in responding enterprises was male'. (73).

Cost Structure of Inputs-Capital

A major portion, 1634 out of 2074 enterprises, possessed captial equipment, the median value of such equipment per enterprise being approximately ₦250 compared to the mean value of ₦450. 'In other words, a large majority of the enterprises (about 70 percent) possessed less than the mean value' (75). Based on an assumption of a median enterprise size of one person, the capital-worker ratio was estimated at ₦250 or US$400. This figure masks variations between certain activities, since the median values in activities such as paper, and related products, fabricated metals and equipment and transport are higher than that in primary industry, trade and food and beverages as seen in table 9.2 below. In addition to the large proportion of enterprises owning equipment, 90% of which acquired it through new purchase, and others through second-hand purchase (75), at least 125 rented equipment, 60% of these paying a rental of ₦5 or less per week (76).

Table 9.2

Distribution of enterprises by value of capital equipment and by activity

Value of Capital Equipment	Prim-ary Indu-stry	Food+ Beve.+ Tobacco	Text-tile+ Leath-er	Wood + Furni-ture	Paper+ Paper Prod-ucts	Fab. Metal+ Machin.	Others Manufac-turing	Utili-ties	Cons-truc-tion	Whole-sale Trade	Retail Trade	Trans-port + Storage	Comm.+ Soc.+ Pers.	Inadeq. Defined	Total	
															No.	%
₦50.00 or less	30.0	33.3	12.0	9.7	7.1	4.4	15.2	22.2	36.4	22.7	28.6	15.3	18.5	18.6	283	17.6
₦50.01-₦100.00	0.0	8.3	12.0	18.3	5.4	13.3	15.2	19.4	0.0	13.6	17.8	1.7	15.6	15.1	223	13.9
₦100.01-₦250.00	40.0	16.7	25.2	8.6	8.9	13.3	8.7	19.4	9.1	24.2	23.1	20.3	21.1	20.9	339	21.1
₦250.01-₦500.00	20.0	16.7	27.6	29.0	17.9	20.0	13.0	33.3	18.2	16.7	15.7	25.4	21.5	22.1	360	22.4
₦500.01-₦1000.00	0.0	16.7	16.4	14.0	14.3	22.2	21.7	5.6	18.2	10.6	9.8	16.9	13.3	16.3	227	14.1
₦1000.01-₦2000.00	10.0	0.0	4.1	13.8	33.9	17.8	6.5	0.0	0.0	4.5	2.5	6.8	6.3	3.5	96	6.0
₦2000.01-₦5000.00	0.0	0.0	2.6	6.5	8.9	8.9	10.9	0.0	18.2	6.1	2.2	8.5	3.0	3.5	62	3.9
₦5000.01-₦9500.00	0.0	8.3	0.2	3.2	3.6	0.0	8.7	0.0	0.0	1.5	0.3	5.1	0.7	0.0	18	1.1
Total %	10 0.6	12 0.7	493 30.7	93 5.8	56 3.5	45 2.8	46 2.9	36 2.2	11 0.[illegible]	66 4.1	325 20.2	59 3.7	270 16.8	86 5.3	1 608	100.0

(Source: Sethuraman. 1981, 77)

The high proportion of residentially based enterprises (61%) lends strength to the argument of the difficulty of distinguishing capital overhead costs from household consumption and therefore blurs the calculability of net earnings to the enterprise.

Earnings

Returns to Enterprise

At a very rough estimate , the study gives the total value of income generated per month per enterprise as ₦144 or ₦1700 per year and value added per worker at ₦69 per month (78). 83% of responding enterprises (71%) gave a weekly sales revenue of ₦75 or less per week, 'the mean and median values being about ₦101 and ₦25 per week respectively' (78).

Entrepreneur Earnings

A total of 1744 heads of enterprises reported a monthly mean income of ₦99 as compared to the legal minimum wage of ₦60 per month, but this masks variations between enterprises: since the median income is only ₦50 per month, 'suggesting that well over half of the entrepreneurs in the Lagos informal sector received an income below the legal minimum (wage)' (72).

Wage Earnings

Wage information for the Lagos informal sector included the report that 60% of enterprises had nonpaid workers 'presumably because they are apprentices' (74) receiving wages in kind (food and shelter). These enterprises also reported 29% payment in cash, 30% in combined payment in cash and kind, and 41% payment in kind only (74). Of a total of 619 enterprises, the average minimum monthly wage for males was ₦35 and the maximum of ₦52, compared to corresponding female wage rates of ₦26 and ₦40 respectively, derived from a response of 133 enterprises (74). 'Finally, in terms of hours of work, 92 percent of the enterprises operated for longer than 9 hours per day' (74).

Ancillary information on secondary earners in enterprises households revealed that 99 out of 659 responses from enterprises revealed secondary earners' employment in the formal sector; over 53% (352 out of 659) were self-employed and 13% (87 out of 659) wages earners in the informal sector. The remaining entrepreneurs were unable to identify the source of employment for these earners.

Linkages

In relation to raw materials and service enterprises inputs, 13% of the enterprises had required no raw material purchases and 80% materials from other small enterprises, with a few from other households.

Only a limited number of the sample therefore obtained raw materials from large enterprises or from the government, although the study revealed an element of monopoly, since 15% of enterprises received raw materials from 1 source and the government (78). Of those buying raw materials, 80% spent less than ₦75 per week. Similarly, only half of the enterprises required the purchase of services, those requiring them obtaining them from small enterprises and households. The cost of services was estimated at ₦10 or less per week for $^3/4$ of households, the mean and median value expenditures on services being ₦20 and under ₦10 per week respectively (78). Following the from the neglible evidence of forward linkages with the formal sector (87% of enterprises sold products to consumer markets and 9% to other informal sector enterprises) (78), the study describes formal/informal sector linkages as 'indirect'. In these terms, the nature of the informal/formal sector linkage derives from consumer income and expenditure. 'In other words, the growth of the formal sector seems to have a significant impact on the growth of the informal sector. Since much of the Lagos informal sector output was sold to households, the link between the two sectors seems to be indirect, via consumer income and expenditures.' (82).

Constraints

Included in the indications of the growth constraints facing enterprises was the fact that:

> 'Only 15 per cent of the enterprises had undertaken any major improvement in the premises though over half had undertaken minor improvements. When asked about their desire to expand and improve their method of production, about 95 per cent expressed an interest in doing so. About 80 per cent of the enterprises cited lack of access to credit as the main obstacle to expansion ...' (79).

Although a survey of enterprises revealed that 40% 'felt competition from large enterprises led to a reduction in their sales, while for the rest it was not a problem' (79), the study concluded that 'the Lagos informal sector is doing reasonably well' (79) based on the supportive facts that: $^{3}/_{4}$ of sampled enterprises had faced a favourable demand for products, 11% actually reporting a substantial increase, especially in food, beverages and tobacco, textile and leather manufacturing, fabricated metal products, etc. Over 80% increased their sales volume and 4% a decrease (79).

Though this favourable image of informal sector performance is diminished by the fact that 'only 21 per cent of the sample firms reported increasing the number of workers. A majority maintained their level of employment' (79), the study points out that further favourable impressions of the sector's viability are given in the 21% 'crude birthrate' of enterprises during 1975-76 (80), 'About 18 per cent of the enterprises were under one year old, 19 per cent between one and two years old, 30 per cent between 2 and 5 years old, 16 per cent between 5 and 10 years old, and the remaining 17 per cent over 10 years old' (80)

Data Problems

Owing to the source and quality of survey responses, the data on output and earnings can only provide a very rough order of magnitude. On the revenue side, the high degree of non-response in sales revenues whether due to reluctance or inadequate record-keeping hampers the representativeness and utility of the data.

On the other hand, output calculations such as that of value added per enterprise are limited approximations due to difficulty in calculating returns to entrepreneurs' own labour. The method taken to calculate this in the study was to derive a rough estimation of income generated per enterprise by estimation through a figure for the average monthly expenditure on wages (excluding the head), using the average number of workers and average per worker as data bases. Since this estimate thus takes an estimate of income earned to derive output data, in value added terms, the resulting estimate very likely leads to underestimation because it excludes reference to production costs such as rent paid for premises, capital equipment, etc. Furthermore, data relying on averages such as those mask variations of output and income earnings between activities. A further factor adding a margin of error and distortion to the data is the inclusion of utilities and agriculture to the sectoral and enterprise information. The specific effects of flaws in the sampling design led to an underestimation of female participation in petty trading and related enterprise activities within the informal sector.

Concluding Remarks

Though confirming the lower earnings capacity of informal sector enterprises, the Lagos study holds the informal sector as a reservoir of skills and 'respectable' income earning possibilities for a substantial 50% of the Lagos labour force. The indirect consumer and expenditures linkages witnessed in the formal and informal sector of Lagos would seem to paint a picture of an informal sector fairly independent of the formal sector.

SIERRA LEONE: FREETOWN

'The Informal Sector in Freetown: Opportunities for self-Employment'

by D A Fowler, in "The Urban Informal Sector in Developing Countries,

ed S V Sethuraman (Geneva, ILO, 1981)

Introduction

The Freetown study takes a city-wide perspective of the informal sector, characterising it as a job market offering possibilities for upward mobility. Freetown is seen as a special case because of its substantial portion of migrants, with at least 33% (of the sample) coming from neighbouring African countries and a further 39% of the (sampled) migrants coming from within Sierra Leone (53).

Definition

The Freetown case study appears to exclusively use the small scale size criteria of under 6 (or 5 and under) workers per enterprise as a basis to distinguish the informal sector. It is unclear which other aspects of the ILO definition this study draws on. The exclusive use of other aspects of this definition seems to be defined by the sampled population description.

The Size/Sectoral Composition

An estimate of overall informal sector labour force size in Freetown was given as 40-50 thousand workers (62). The employment growth rate in the informal sector (especially in trade) was estimated at 35% (69). The distribution of informal sector enterprises between sectors is given in table 10.1, with order of numerical importance: 65% trade; 20.1% manufacturing; 8.9% services; 3.9% transport; 2.1% construction; with retailing predominating as an enterprises activity comprising 50.4% of sampled enterprises.

Table 10.1

Distribution of sample enterprises by main activity

Activity	Absolute freq.	Relative freq. (per cent)
Manufacturing		**20.1**
Food	29	3.0
Tobacco	7	0.7
Textiles	9	0.9
Wearing apparel (except footwear)	72	7.4
Leather products (" ")	7	0.7
Footwear	15	1.6
Wood products	5	0.5
Furnitures	32	3.3
Printing, etc.	1	0.1
Pottery, chinaware, etc.	3	0.3
Metal products	15	1.6
Construction	20	**2.1**
Trade		**65.0**
Wholesale	1	0.1
Retail	487	50.4
Hawkers and pedlars	62	6.4
Restaurants, etc.	77	8.0
Hotels, etc.	1	0.1
Transport		**3.9**
Taxicabs	18	1.9
Cycle rickshaws	18	1.9
Freight transport	1	0.1
Services		**8.9**
Education	1	0.1
Health services	3	0.3
Other social services	36	3.7
Repair services	47	4.9
Total	967	100.0

(Source: Sethuraman, 1981, 52)

Labour Force Structure

The characterisation of the informal sector of Freetown was as 'a source of self-employed, rather than paid employment' (57). Seventy-four per cent of all enterprises were therefore reported as having no employees of any sort. Of those 251 enterprises with employees, however, 100 (or 40%) employed only 1 person, 62 (or 25%) employed 2 persons, over 2/3 therefore employed over 2 workers. The average size of enterprise was thus given at 1.86 persons (57). Out of a sample of 1,802 persons, the sector was said to provide employment for 54% in the form of self-employment and 46% in the form of paid or unpaid employment. (57)

Following from the size bias in certain activities 84% of trade enterprises did not even have 1 employee as compared to 54% in manufacturing, transport and 30% in construction (62).

Age/Sex Distribution

'Only a small percentage of informal sector entrepreneurs (were) typically young, seeking their first job' (51), while about 85% of informal sector workers were 30 years of age and above (57). 25% were female, with a median age of 35 years, and 38% were males under 30 years of age (51). Whereas two-thirds of the female entrepreneurs were centred of retail trade, participation of males was distributed in several activities, according to the age of entrepreneur (51). 'Males between 10 and 14 years had access only to retail trade or manual labour as head porters. Those between 15 and 19 years were heavily concentrated (80 per cent of them) in retail trading on a very minor scale, requiring low capital investment. Retail trading also accounted for two-thirds of all males in the 20 to 24-year age cohort: the remaining tended to participate in activities requiring relatively more skills and/or capital. Thirteen per cent were tailors ... Another 9 per cent were in repair work relating to retail trade ... The rest of this age group set up business as restauranteurs and local shoemakers. As expected, construction and mechanised transport, with their requirements of heavy capital investment, did not have any owners under 25 years of age ... the 25 to 29-year male group ... in addition to participation in the activities noted above, moved into the motor transport business ... Looking at the data on age distribution within activities the 20 to 29-year group provides 57 per cent of all the footwear manufacturers, 43 per cent of tailors, 48 per cent of all retail trade repairers and 28 per cent of taxicab owners ... 53 per cent of those engaged in manual transport as 'omolankey' drivers and head porters are under 30 years of age' (51)

Table 10.2

Gross value of output per worker by main activity

	Gross value of output (Leones per month)		
	Total for sample enterprises	Per enterprise	Per worker
Manufacturing	28 121	144	64
Food, tobacco, etc.	6 031	168	97
Textile	1 724	192	91
Wearing apparel	8 808	122	55
Leather and footwear	1 490	68	45
Wood, cork and furniture	6 691	181	55
Printing, glass and metal	3 377	178	80
Construction	7 640	382	75
Trade	82 956	132	82
Retail trade	61 261	111	78
Restaurants	21 695	278	94
Transport	8 465	229	114
Services	11 220	129	65
Repairs	3 654	78	49
Other	7 566	189	77
All	138 402	143	77

(Source: Sethuraman, 1981, 60)

Table 10.3

Capital-labour ratio by main activity

Activity	Value of capital* (Leones)	Number of enter-prises	Number of workers	Number of workers (including owner)	Capital* per worker (Leones)
Manufacturing	24 795	195	243	438	56.6
Food, tobacco, etc.	2 664	36	26	62	43.0
Textile	397	9	10	19	20.9
Wearing apparel	12 176	72	89	161	75.6
Leather and footwear	1 945	22	11	33	58.9
Wood, cork and furniture	4 310	37	84	121	35.6
Printing, glass and metal	3 303	19	23	42	78.6
Construction	2 447	20	82	102	24.0
Trade	25 124	628	388	1 016	24.7
Retail trade	13 973	550	236	786	17.8
Restaurants	11 151	78	152	230	48.5
Transport	4 137	37	37	74	55.9
Services	8 773	87	85	172	51.0
Repairs	2 113	47	27	74	28.6
Other	6 650	40	58	98	68.0
All	65 276	967	835	1 802	36.2

* Excludes buildings and working capital.

(Source: Sethuraman, 1981, 59)

Output and Productivity Measures

Capital Output Ratios

Comparable data on the capital-labour ratio by main activity, as shown in table 10.2, reveals the domination of the manufacturing, transport, service sectors in capital-output per worker, with 56.6, 55.9 and 51.8 leones per worker in the respective manufacturing, transport and service sectors, as against 24.7 and 24.0 in the trade and construction categories.

Captial-Labour Ratios

The value of capital per worker, capital defined here in terms of anything other than building (seen in table 10.3), shows an average of 36 leones per worker with considerable variations between activities. Amongst the most captial intensive activities were: manufacturing of wearing apparel (tailoring), manufacturing of printing, glass and metal (consisting mainly of metal working enterprises) requiring between 76 and 79 leones respectively while the least capital intensive was retail trading.

The net worth of enterprises was estimated at 100 leones or less for over half of the enterprises. Twenty three per cent estimated their businesses as worth between 100 and 250 leones. A further 14% were valued at between 250 and 500 leones, 8% between 500 and 1,000 leones, the rest ranging between 1,000 to 6,500 leones in value (61)[13].

Equipment, where it existed, was cheap and locally made by small enterprises. Fifty per cent of those enterprises owning equipment valued it only up to 25 leones and 14% between 26-50 leones per month, both categories together being represented in the trading sector. The twelve per cent owning equipment valued between 51 and 100 leones were represented mainly by nonmechanised transport operators and some service workers. A further 21% owned equipment valued at 101 and 500 leones while the remaining 3% possessed capital equipment worth over 500 leones, (the latter mainly in the mechanical transport, metal manufacturing and service sectors (61).

The informal sector enterprises in Freetown were thus characterised by low capital outlays with over 50% employing capital minimally (only up to 25 leones worth of capital equipment).

Enterprise Earnings

The net return to all sample entrepreneurs was calculated at 88,820 leones per month or 92 leones on average per entrepreneur, representing the return to entrepreneurial labour and capital invested in the business. Net return to entrepreneurs as seen in table 10.4 shows variations between activities from 47 leones per month in repair services to as high as 247 leones per month in construction (62).

Table 10.4

Net revenue to the entrepreneur by main activity (Leones per month)

Activity	Net revenue Total for the sample	Per entrepreneur
Manufacturing	**18 333**	**94**
Food, tobacco, etc.	4 471	124
Textile	1 198	133
Wearing apparel	5 607	78
Leather, footwear	1 000	45
Wood, cork and furniture	4 445	120
Printing, glass and metal	1 612	85
Construction	**4 949**	**247**
Trade	**52 796**	**84**
Retail trade	39 614	72
Restaurants	13 182	169
Transport	**4 957**	**134**
Services	**7 785**	**89**
Repair services	2 231	47
Other	5 554	139
All	**88 820**	**92**

(Source: Sethuraman, 1981, 63)

Gross/Net Values of Output

The productivity data provided for the informal sector of Freetown ranges from sales values of products, average sales per enterprise, gross value of output per enterprise, gross value added, average gross value of output per worker.

Forty per cent of all enterprises had sales less than 50 leones per month and one quarter had sales worth between 51 and 100 leones. These sales characterised the situation in the trade sector. Another 1/5 had sales between 101 and 200 leones. Twelve per cent of those with monthly sales between 210 and 500 leones were mostly in furniture manufacturing. Four per cent selling goods and services (mainly in transport and construction sectors) sold goods worth over 500 leones. The average value of sales per enterprise worked out to 134 leones per month.

The gross value of output for total sampled enterprises was estimated at 138,402 leones per month or 143 leones per month per enterprise. The average gross value of output per person was 77 leones per month or 900 leones per year (62) although variations between activities were noted. Gross value added, computed as a residual from gross value of output after deducting expenses from inputs works out as 97,085 leones per month (62) for the sample as a whole, or 100 leones per month. Gross value added per worker was estimated at 54 leones per month (62).

Regularity of Work/Working Day

Other data relevant to output descriptions includes the estimated working hours of enterprises. Two-thirds of enterprises worked between 8 and 12 hours daily, while 27% worked for over 12 hours a day. Those working less than five hours a day were exclusively comprised of women in small scale food manufacturing with domestic as well as business responsibilities. The hours worked by taxicab drivers and tailors by comparison were extended to over 16 hours a day due to shift systems (56).

Enterprise Data

Over 2/3 of businesses were less than 5 years old, 25% of all enterprises less than 1 year old. The mean age of business estimated was 2.8 years old. (56).

The study observes from the evidence of data on age of enterprises that 'It is not clear, however, whether this belated entry into other sectors is due to barriers of entry (notably lack of capital and skills) initially ...' assuming 'that the older enterprises followed the same pattern of entry as the recent ones' (67). It states that the data on age composition of enterprises by distribution in trade and manufacturing 'imply that the entry point for a large majority of informal sector entrepreneurs is the trade and repair activities and that many of them manage to penetrate into other secotrs over time.' (67).

Location of Enterprise

Most sampled enterprises were in fixed locations. Eighty per cent of enteprises had been 'fixed' in the same area for the previous 6 months or more prior to the date of the interview while under 5%, mainly hawkers and peddlars. occupied both fixed and variable locations.

Wage Earnings

The total wage bill in the sample of entreprises was 4,834 leones for paid workers, implying an average per person of 11 leones or approximately US$11 per month. The variations between activities ranged from 5,5 leones in trade to 13 leones in manufacturing and 27 in construction. The average wage of full-time workers in the informal sector in Freetown was thus estimated at somewhat higher than 11 leones per month, and lower than the legal minimum wage (58).

Average compensation per worker in the non-wage employment category calculated as a substitute for wage information, was derived from the total expenditure on non-wage workers (3,431 leones for the sample as a whole) and was estimated at an average of under 10 leones per month. Half the workers without regular wages were described as receiving wages in kind covering the range of regular meals, shelter and training skills relevant to their job. These workers were seen as dominating the manufacturing, transport, and some service categories. Twenty-six per cent of those receiving only food and shelter were seen to predominate in the trade sector where skill learning was negligible, while 11% received food, training and no shelter, with 13% (mainly indigenous workers) received training only (58).

Related to the wage earnings is the question of employment regularity. Eighty per cent of the employed respondents were employed on a full-time basis; the remaining on a part-time basis. Of those working on a part-time basis, most did not receive regular wages and tended to dominate the retail trade and restaurant activities and to a lesser extent tailoring. The study concluded that 'manufacturing enterprises take on relatively more non-wage employees, presumably as apprentices' (57).

Linkages

As described in the study, linkages between the informal and formal sectors were concentrated in backward linkages for raw materials supply and virtually absent in access to markets.

Backward Linkages

The evidence supporting these conclusions drawn from the data are as follows: on the one hand, the study describing the Freetown informal sector states that:

> '... the informal sector enterprises, many of them being in trade, bought their goods mainly from retailers; 38 per cent from foreign retailers, 6 per cent from large local retailers, 24 per cent from small traders within the informal sector as compared to 8 per cent from wholesalers; and most remaining depended on a combination of the above' (63).

The source of raw materials, goods and services inputs for specific activities such as food, tobacco, manufacturing, manual transport, eating houses were described as indigenously derived from small traders in 50% of the cases. The other extreme where 'entrepreneurs in textile manufacture, tailoring and dressmaking, footwear manufacturing bought materials for their work mainly from big foreign retailers'(63) was also quoted. Thus fifty per cent of retail traders, one third of those engaged in repair services and 50 per cent of the service enterprises, bought mainly from big foreign business enterprises. (64).

Forward Linkages

The conclusion of the data on forward linkages is that:

> 'In terms of a duality of formal and non-formal enterprises, only enterprises in food and leather manufacturing and non-mechanised transport escape the grip of the formal sector. The rest of the industrial activities are by their nature closely tied to the formal sector in a distinctly one-sided relationship' (64).

The data on forward linkages suggests that firstly, in most cases, the informal sector of Freetown is characterised by a consumer goods market and that larger enterprises have greater forward linkages (65). This is demonstrated in the fact that 81% of enterprises were described as selling exclusively to individuals and households, while 11% were described as selling their goods and services to big business (including government agencies, big foreign and Sierra Leonean wholesalers and retailers combined).

According to the study, the data also showed a tendency of greater forward linkages for larger enterprises since eighty per cent of one-man enterprises were described as selling goods and services to individuals and households 'as compared to enterprises having 80, 69, and 60 per cent respectively for enterprises having 2, 3, 5 and over 6 persons' (65).

Constraints on Expansion

Amongst the constraints on expansion of enterprises identified in the study were the amount of business conducted, loan and credit facilities and markets. The volume of business conducted was quoted as a constraint on expansion with implications for labour absorption:

> 'Entrepreneurs are operating in what they consider to be an uncertain business climate and accordingly consider it unprofitable to commit themselves to employing more personnel even if for low wages' (66).

Only one third of enterprises were reported to have undergone increases in the volume of business, 30% no change in volume and 34% a decrease in volume of business.

The activities identified as major areas of expansion (in terms of the number of enterprises reporting increases in the volume of business were food processing (35%), wood and cork manufacture (84%), construction (41%), hawkers and peddlars and in retail trade (43%), repair services (47%), and taxicab operators (56%). The study pointed out a further trend that:

> 'the proportion of enterprises reporting an increase in volume of business decreases with age of the entrepreneurs and the proportion of those complaining a decrease tends to rise with the age' (66).

The major portion, fity-two per cent, regarded lack of loan and credit facilties as obstacles for expansion, while 28% of the participants in retail trade identified the lack of sufficient clients as a major obstacle. A further 8% were said to have complained of heavy taxes and another 10% 'stressing the dominant position of large foreign enterprises as an obstacle'. Under 12% regarded non-payment of debts as an obstacle. A further 4% of the sample were said to be unwilling to expand since 'they refused to, or were unable to, imagine the problems of managing an enterprise larger than the present one' (66).

Concluding Remarks

Amongst the conclusions drawn in the Freetown study are the positive correlation between migration and the size of the informal sector. The study also identifies the manufacturing sector as an area requiring relatively more capital and skills, yet providing the potential for upward mobility in the long-term, since given the characteristics of informal sector enterprises:

> 'The evidence seems to suggest that there is some upward mobility in the sense that a greater proportion of the older enterprises is to be found

in manufacturing and related activities requiring relatively more capital and skills'.

The study shows that whereas the informal sector offers considerable income earning opportunities, the ease of entry into such activities is conditioned by the capital requirements of such enterprises amongst other things. It fails, however, to draw together the very significant differences within the informal sector itself.

CAMEROON REPUBLIC: YAOUNDE

'The Modern Informal Sector in Yaoundé'[14] by Erik Demol and Georges Nihan

(International Labour Review, Vol 11, No 1, Jan-Feb 1982, 77-88)

This city level study of Yaoundé, Cameroon Republic, reviews the growth potential of the informal sector with particular reference to the level of skill development promoted in the sector. Amongst the data included are estimates of the size of the informal sector in the city, and information on output and employment which covers capital efficiency, labour productivity, and earnings for employees in the sector.

Definition

As suggested in the title of this article, the definition of the informal sector used in this study is limited to the technologically modern sector within informal sector manufacturing production. Other than this, specific aspects of this definition lie unstated in the text.

Sampling Base

This study was undertaken by means of a census of Yaounde in 1978, covering all economic activities in the informal sector apart from building and transport. The census covered 15,364 enterprises employing 20% of the active labour force (77-78). Additional information came from a sample survey undertaken between February and April 1979, which included woodworking, metal working, mechanical and electric repairs and small scale engineering as well as tailoring and leather work (77).

The sample survey excluded 79.7% of those enterprises in the commercial sector and focused on 'production selected services and clothing' (78). It surveyed 2,600 entrepreneurs, 150 partners, 500 employees, 170 family workers with paid employment, and 3,300 apprentices, receiving some cash payment (78).

Size and Sectoral Composition of the Modern Informal Sector

Table 11.1

Employment in the modern informal sector in Yaounde[1]

Type of activity	Apprentices	Family helpers	Unskilled workers[2]	Skilled workers	Non manual workers	Partners working in the undertaking	Entrepreneurs[3]	Total employed	Number of jobs available annually[4] (short term)		
									Apprentices	Other workers	Entrepreneurs
Production	*855*	*86*	*66*	*239*	*7*	*33*	*750*	*2 036*	*447*	*162*	*103*
Wood	646	53	53	180	7	20	593	1 552	315	119	68
Metal	209	33	13	59	–	13	157	484	132	43	35
Services	*1 015*	*33*	*33*	*105*	*7*	*34*	*442*	*1 669*	*541*	*72*	*84*
Vehicle repairs	771	33	33	86	7	13	211	1 154	425	68	63
Electrical repairs	221	–	–	19	–	13	145	398	101	4	11
Small scale engineering	23	–	–	–	–	8	86	117	15	–	10
Clothing	*1 472*	*53*	*40*	*66*	–	*79*	*1 404*	*3 114*	*928*	*53*	*– 10*[5]
Leather	52	–	–	–	–	13	223	288	35[6]	–	– 14[5]
Cloth	1 420	53	40	66	–	66	1 181	2 826	893[7]	53	4
Total	3 342	172	139	410	14	146	2 596	6 819	1 916	287	177

[1] Extrapolation, by type of activity, to the parent population [2] There were no day-labourers in the undertakings surveyed. [3] Figures equivalent to the total number of undertakings. [4] Including increases within the undertakings, increase in the number of undertakings and normal labour turnover. [5] Decrease caused by "leather" (shoe repairs). [6] Of which 26 (74 per cent) caused by turnover of apprentices. [7] Of which 734 (82 percent) caused by turnover of apprentices. The majority of apprentices in this category pay an apprenticeship fee.

(Source: Demol and Nihan, 1982, 79)

The study estimates the size of the informal sector to be some 20%[12] of the active labour force (81). In table 11.1, employment in the informal sector is given according to the three categories of employment in production, services and clothing branches. Data on the size of the labour force show that apprentices make up half of the informal sector labour force. Similarly, in most branches apprentices comprise up to half or just under half the labour force within informal sector branches of production, except for services with 60%. Of all three branches shown in table 11.1., clothing is the most labour absorptive. Just under half of the total labour force within the informal sector (3,114 workers out of a total of 6,819 workers) work here. The apparent non-correspondence between the number of jobs available annually per (main) worker and branch category with the numbers employed in this sector, is an indication of the high labour turnover rate.

Output and Productivity

In table 11.2, aggregates of a range of 'economic components' of production for selected branches are provided. Within these branches, wood, metal and tailoring are said to account for 4% of national total production (81).

As elsewhere (see table 11.3), there is a considerable range in the economic components described within branches, with certain trends apparent. Thus 'As the capital assets increase there is a rise in the number of workers in the undertaking as well as in the "capital per worker" ratio' (85). It should be noted, however, that despite a comparatively low capital-worker ratio, the clothing branch has considerable remuneration potential, as seen in the high level of gross value added.

Table 11.2

Estimation of some economic components of the modern informal sector in Yaoundé

Type of activity	Turnover[1]	Raw materials used[2]	Wage bill[3]	Net trading results[2,3]	Gross value added[2]	Self-financing capacity[2,4]	Capital assets	Capital per worker[5]	
	Million francs CFA[6]							Averages (1,000 francs CFA)[6]	US$
Production	*2 132.0*	*1 173.1*	*117.5*	*655.6*	*804.7*	*498.3*	*293.7*	*144.3*	*623*
Wood	1 661.7	909.8	90.0	512.4	628.4	384.2	235.5	151.7	655
Metal	470.3	263.3	27.5	143.2	176.3	114.1	58.2	120.3	520
Services	*1 255.2*	*735.2*	*76.3*	*353.2*	*444.2*	*231.6*	*145.3*	*87.0*	*376*
Vehicle repairs	924.1	566.9	60.9	242.2	312.5	183.7	108.5	94.0	406
Electrical repairs	280.6	149.7	14.6	85.5	104.5	42.5	30.9	77.6	335
Small-scale engineering	50.5	18.6	0.8	25.5	27.2	5.4	5.9	50.3	217
Clothing	*1 709.9*	*960.0*	*57.4*	*541.1*	*617.2*	*190.0*	*136.4*	*43.8*	*189*
Leather	99.9	44.7	1.8	45.7	48.2	15.0	3.3	11.6	50
Cloth	1 610.0	915.3	55.6	495.4	569.0	175.0	133.1	47.1	203
Total	**5 097.1**	**2 868.3**	**251.2**	**1 549.9**	**1 866.1**	**919.9**	**575.4**	**84.4**	**365**

[1] Extrapolation, by type of activity, to the parent population. [2] These variables were calculated with a fair degree of accuracy, thanks to the wording used in the questionnaire, for normal, good and bad weeks, reduced to the average week on the basis of the distribution of these weeks over the year, and finally estimated for the year by multiplying by the number of weeks during which the undertaking operated. The following variables were taken into account: estimated turnover and raw materials for the three types of week, the wage bill (payments in cash and in kind for each worker per average week over the year), operating costs (electricity, water and other overheads per average week), rent plus charges for depreciation and taxes. The capital assets were calculated from the estimates made by the entrepreneurs of the real resale value at current prices of their tools, materials, furniture, machines, vehicles, land and workshop; the calculation therefore takes into account the depreciation of the equipment since its purchase. Finally, separate estimations were made for each of these headings. [3] Including wages of the entrepreneur and partners. [4] The self-financing capacity is equal to the net trading results plus the outside income minus expenditure on housekeeping and the extended family. [5] Including entrepreneurs and partners. [6] 1,000 francs CFA = US$4.32.

(Source: Demol and Nihan, 1982, 82)

The average capital invested in production and services was 372,300 francs CFA[13], with the figure for clothing of 97,400 francs CFA. However, about 70% of enterprises invested less than this value in capital (78). The average value of capital needed per worker was US$365 as seen in table 11.2. The range of capital-labour values varied, however, between a high of US$655 in woodworking to a low of US$50 in leather working.

Estimates of gross value added and labour productivity according to the value of capital assests used in productive branches are provided in table 11.3 below. As seen here:

> "captial efficiency declines as the capital increases and the increase in capital per worker (which goes hand-in-hand with the increase in capital assests) results in higher labour productivity ... Similarly, profits rise with the increase in resources invested in production, except for the most capital-intensive group of undertakings (in both production and services and clothing) which has a lower yield than the preceding group. Labour productivity is also lower, indicating that the investment in production capacity is certainly not optimal! (85)

Table 11.3

Changes in some production indicators with increasing levels of capital

Capital assets ('000 francs CFA)	Capital assets[1] ('000 francs CFA) A	No. of workers[1][2] B	Capital per worker ('000 francs CFA) A:B	Gross value added[1] ('000 francs CFA) C	Capital efficiency[1] C:A	Labour productivity[1] ('000 francs CFA) C:B	No. of undertakings (%)
				Production and services			
0-24.9	14.5 (7.7)	1.8 (1.1)	8.2	430.4 (357.1)	29.7	242.6	17.3
25.0-99.9	48.3 (20.3)	2.0 (1.2)	24.1	528.3 (345.1)	10.9	264.1	32.4
100.0-249.9	157.3 (45.0)	3.1 (1.6)	50.3	967.4 (741.6)	9.0	309.2	17.3
250.0-749.9	429.0 (149.9)	4.1 (2.4)	105.1	1 410.3 (791.6)	6.2	345.7	14.0
750.0-1 499.9	1 077.5 (173.7)	5.2 (2.1)	208.5	2 362.2 (1 406.0)	3.3	457.2	13.4
1 500.0 and over	2 197.3 (468.2)	6.6 (4.3)	332.9	2 298.0 (1 207.5)	1.0	348.2	5.6
Together	372.3 (581.1)	3.1 (2.3)	119.1	1 055.3 (1 029.9)	2.8	337.3	100.0
				Clothing[4]			
0-24.9	10.6 (11.8)	1.3 (0.7)	8.2	244.2 (140.9)	23.0	188.7	16.0
25.0-99.9	57.8 (22.6)	1.8 (1.2)	32.2	331.4 (186.5)	5.7	184.5	51.0
100.0-249.9	154.9 (34.1)	3.1 (1.9)	50.4	737.2 (916.8)	4.8	240.0	26.4
250.0-749.9[5]	383.2 (123.4)	4.3 (2.7)	89.4	555.1 (583.8)	1.4	129.5	6.6
Together	97.4 (99.2)	2.2 (1.7)	43.9	439.4 (545.3)	4.5	198.2	100.0

(Source: Demol and Nihan, 1982, 86)

Earnings in the Informal Sector

The study states that the average weekly income in production and services is 15,934 francs CFA[14], and in clothing 6,801 francs CFA with standard deviations of 15,312 and 7,169 respectively, which compares favourably with the guaranteed inter-occupational minimum wage (SMIG) for Yaoundé, 2994 francs CFA'. (78). 8% of entrepreneurs in production and services, and 16% in clothing earned less than the legal minimum wage (78). Allowing for training and experience, 17.3% of production and services craftsmen, and 39.6% in clothing received less than the wages in the formal sector. (78).

A combination of wages and other benefits in kind, such as meals, were the form of payment for 83.5% of those considered part of the 735 'permanent' workers category, excluding apprentices and family workers. These workers earned above the legal minimum wage of 2,994 francs CFA a week, with 50% of them earning less than the shadow wage in the formal sector (especially those educated beyond primary school). Lowly paid unskilled workers earned roughly the same as family workers, while clothing trade workers earned much the same as apprentices (80).

Regularity of Employment

In the informal sector working time in the average enterprise was 53.5 per week, compared to the normal formal sector 40 hour working week. (78). Entrepreneurs worked an average 110 hours in production, 'With the rest of the time being taken up by locking for raw materials or clients, organising the work and the training of apprentices, management (on a somewhat limited scale) of the undertaking ...'(78).

Labour Composition

The labour composition was broken down as follows: 43% of the sampled enterprises consisted of owner workers alone, while 52% were mixed apprentices and owners. The average number of apprentices in these enterprises was 2 to 5 (80), with apprentices constituting 82% of the labour power of entrepreneurs in this category (81). 5% of the enterprises had 1.4 family helpers, 4% employed 1.4 unskilled workers, 8% of the craftsmen were assisted by 1.9 skilled workers, while under 1% used non-manual workers (part-time) (80).

Markets/Forward and Backward Linkages

According to the study, informal sector enterprises have a share in the spectrum of income markets, while capturing exclusively some markets (83-84). According to the survey, 60% of the market demand came from clientele outside the formal sector, 35% from public sector employees and modern formal enterprises (83-84) and 5% from modern enterprises and state services. Data on backward linkages for raw materials showed formal/informal sector linkages for the majority of informal enterprises. 68% received production goods, 70% had raw materials and spare parts from the modern formal sector, while only 25% obtained raw materials from the informal sector (84). 37% of the value added for these enterprises, however, derives from the informal sector (84).

However, as illustrated in the study, the source of backward linkages as measured by volume is not necessarily an adequate indicator of the importance of formal linkages and is better explained in value added by sector source.

Constraints

In Yaoundé, craftsmen's perception of the most serious problems facing enterprises was given as the lack of capical, or the high prices in equipment. This was quoted by 85% in production and services, and 80% in clothing. In addition, the authors' remark that inadequate consideration of capital depreciation by entrepreneurs limits the overall capital efficiency and growth potential of enterprises. This criticism applied to the large majority of entrepreneurs since only 8.4% of production and service craftsmen, and no clothing trade craftsmen accounted for capital depreciation (85). According to the authors, this indicated entrepreneurial shortsightedness.

Problems with Employment Data

The categorisation of employment in the informal sector into production, services and clothing does not allow for a comparison to be made in terms of classification into productive, services and distributive sectors. Among the problems contributing to the underestimation of the informal sector was: the exclusion of mobile activities (such as transport and building); the inclusion of forestry and weaving into the informal sector, although they are not necessarily informal sector activities (81).

Concluding Remarks

The Yaoundé study maintains that the major constraints facing the growth potential of the informal sector are internal to the enterprise. Following from this, it recommends that policy support for this sector should concentrate on the promotion of output efficiency within the enterprise, rather than on external factors (ie, raw materials, credit supply, etc). This underestimation of external constraints is, however, likely to be a consequence of its lack of specific detail in backward and forward linkages according to the 'collection of production units' involved in the branch level of activity (Schmitz, 1982).

INDIA: CALCUTTA

'Calcutta. Its Urban Development and Employment Prospects' by H Lubell

(Geneva, ILO: 1974)

This Calcutta study is one of the first city studies commissioned by the ILO. It examines the importance of the informal sector in the context of a declining metropolitan economy with (now) over 7 million inhabitants in its metropolitan area (1). It focused largely on unemployment and urban employment creation as suggested by Bairoch (1973) and viewed the informal sector as a part of the solution to the problem of labour absorption. Though the document provides a considerable amount of employment statistics, little of this refers specifically to informal sector. The sparse information on the informal sector is limited to speculative estimates of overall informal sector size and the identification of services branch activities.

Definition

In defining the informal sector as a residual category, the study states that 'metropolitan Calcutta's informal sector is both the labour market of last resort for those who cannot obtain 'jobs' in the modern sector and an enormous reservoir of productive skills ...' (88). Operationally, however, the study relied on the definition of the informal sector as the 'unregistered' or 'unorganised sector'. Identification of this sector was in fact limited to the transport, trade and services sectors.

Sampling Base and Measurement

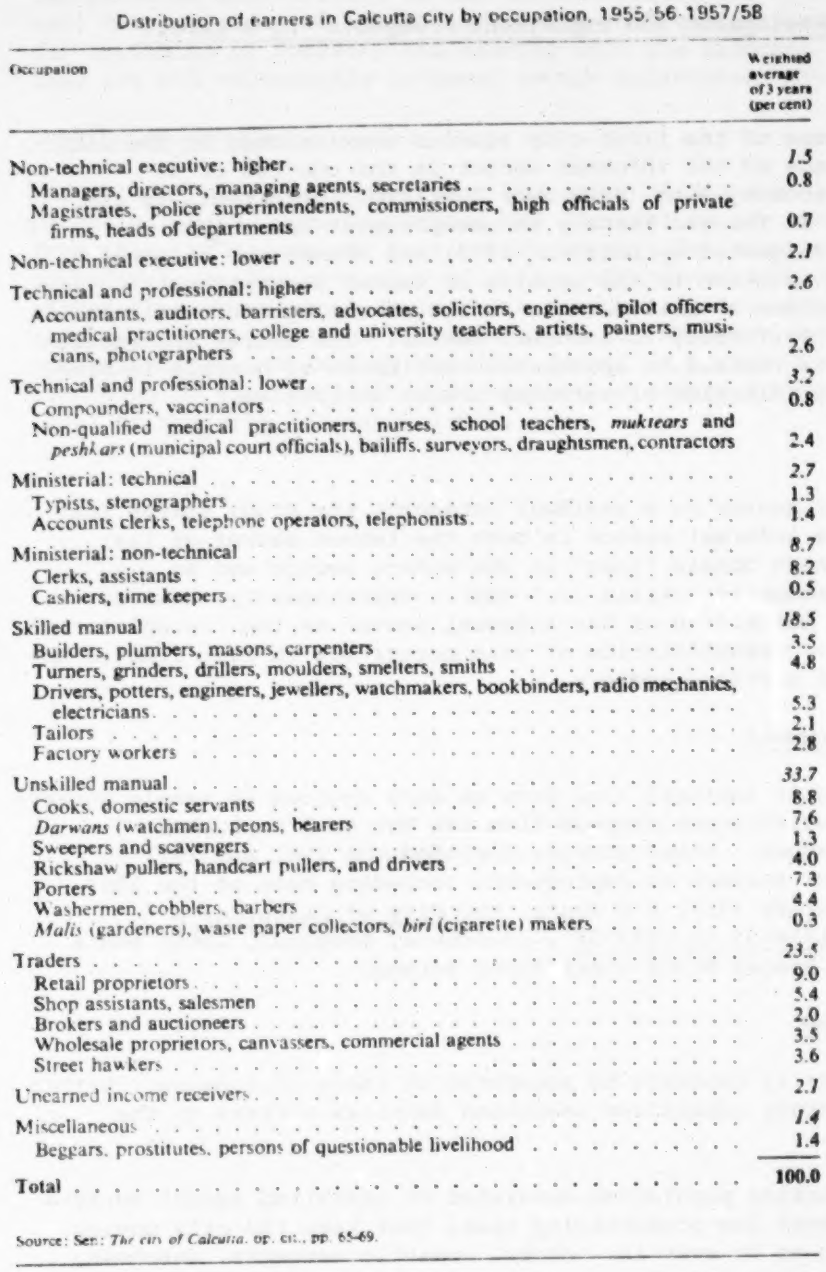
The data base for aggregate sectoral size drew on such sources as sample surveys of households and the registration records from the National Employment Service employment exchanges. Other sources included the 1961 and 1971 census data, a variety of surveys on employment, including that of the 1953 Indian Statistical Institute (46); S N Sen's The City of Calcutta: A Socio-Economic Survey, 1954-55 to 1957-58 , (Calcutta, Bookland, 1960) and a 1959 survey by the West Bengal State Statistical Bureau.

Size/Sectoral Composition

A distribution of earners in Calcutta is presented in table 12.1 below. Within this distribution, the study identifies unskilled services workers in the informal sector:

> 'One-third of the working population consisted of unskilled manual workers carrying out all those low-productivity tasks that keep the city moving, eating and as clean as it ever is - cooks, domestic servants, watchmen, peons, bearers, sweepers and scavengers, rickshaw pullers, porters, washermen, gardeners, wastepaper collecters, etc. (M)ost of ... (whom) ... form part of the informal sector' (47).

Table 12.1



Distribution of earners in Calcutta city by occupation, 1955/56-1957/58

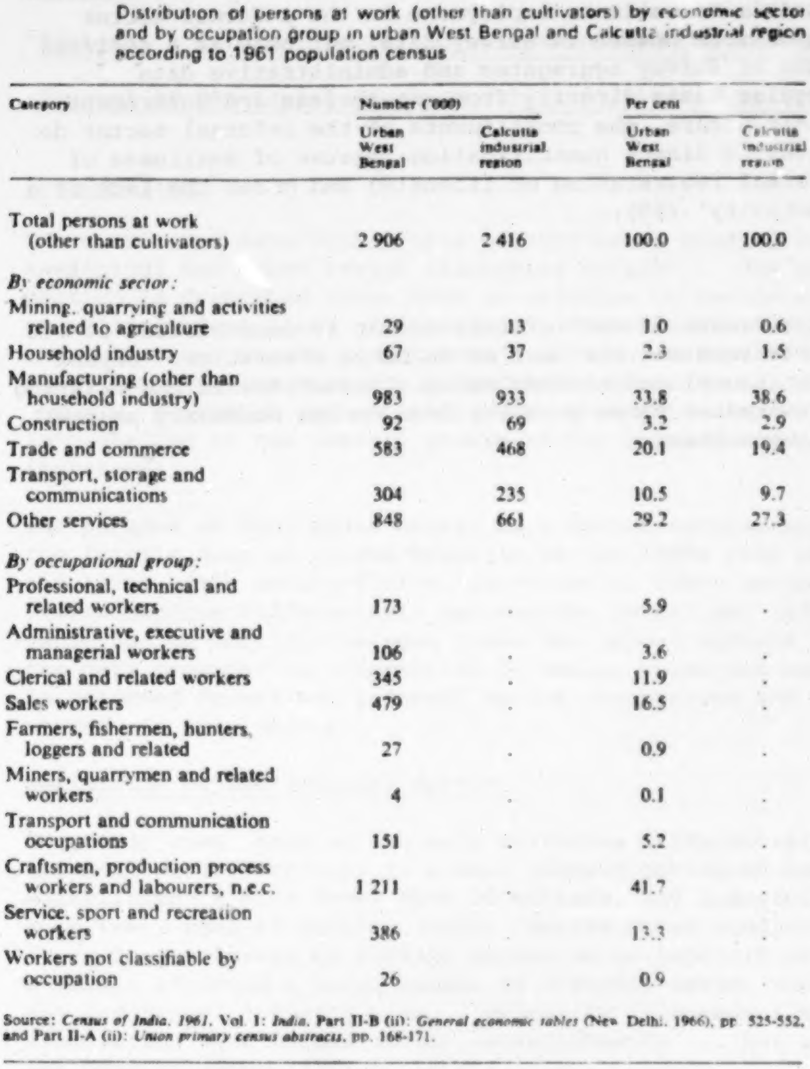
Occupation	Weighted average of 3 years (per cent)
Non-technical executive: higher	*1.5*
Managers, directors, managing agents, secretaries	0.8
Magistrates, police superintendents, commissioners, high officials of private firms, heads of departments	0.7
Non-technical executive: lower	*2.1*
Technical and professional: higher	*2.6*
Accountants, auditors, barristers, advocates, solicitors, engineers, pilot officers, medical practitioners, college and university teachers, artists, painters, musicians, photographers	2.6
Technical and professional: lower	*3.2*
Compounders, vaccinators	0.8
Non-qualified medical practitioners, nurses, school teachers, *muktears* and *peshkars* (municipal court officials), bailiffs, surveyors, draughtsmen, contractors	2.4
Ministerial: technical	*2.7*
Typists, stenographers	1.3
Accounts clerks, telephone operators, telephonists	1.4
Ministerial: non-technical	*8.7*
Clerks, assistants	8.2
Cashiers, time keepers	0.5
Skilled manual	*18.5*
Builders, plumbers, masons, carpenters	3.5
Turners, grinders, drillers, moulders, smelters, smiths	4.8
Drivers, potters, engineers, jewellers, watchmakers, bookbinders, radio mechanics, electricians	5.3
Tailors	2.1
Factory workers	2.8
Unskilled manual	*33.7*
Cooks, domestic servants	8.8
Darwans (watchmen), peons, bearers	7.6
Sweepers and scavengers	1.3
Rickshaw pullers, handcart pullers, and drivers	4.0
Porters	7.3
Washermen, cobblers, barbers	4.4
Malis (gardeners), waste paper collectors, *biri* (cigarette) makers	0.3
Traders	*23.5*
Retail proprietors	9.0
Shop assistants, salesmen	5.4
Brokers and auctioneers	2.0
Wholesale proprietors, canvassers, commercial agents	3.5
Street hawkers	3.6
Unearned income receivers	*2.1*
Miscellaneous	*1.4*
Beggars, prostitutes, persons of questionable livelihood	1.4
Total	**100.0**

Source: Sen: *The city of Calcutta*, op. cit., pp. 65-69.

(Source: Lubell, 1974, 50)

By comparison, the 1959 State Statistical Bureau report (Calcutta, 1966) estimates unskilled manual workers in the Calcutta industrial area labour force at 15.9% 'including occupations not reported' as a speculative allusion to the informal sector presence (48). Table 12.2 provides a distribution of persons at work (other than cultivators) by economic and occupational group in which 'the entire household manufacturing form part of the informal sector' (46) but which in itself is very unrepresentative.

Table 12.2



Distribution of persons at work (other than cultivators) by economic sector and by occupation group in urban West Bengal and Calcutta industrial region according to 1961 population census

Category	Number ('000)		Per cent	
	Urban West Bengal	Calcutta industrial region	Urban West Bengal	Calcutta industrial region
Total persons at work (other than cultivators)	2 906	2 416	100.0	100.0
By economic sector:				
Mining, quarrying and activities related to agriculture	29	13	1.0	0.6
Household industry	67	37	2.3	1.5
Manufacturing (other than household industry)	983	933	33.8	38.6
Construction	92	69	3.2	2.9
Trade and commerce	583	468	20.1	19.4
Transport, storage and communications	304	235	10.5	9.7
Other services	848	661	29.2	27.3
By occupational group:				
Professional, technical and related workers	173	.	5.9	.
Administrative, executive and managerial workers	106	.	3.6	.
Clerical and related workers	345	.	11.9	.
Sales workers	479	.	16.5	.
Farmers, fishermen, hunters, loggers and related	27	.	0.9	.
Miners, quarrymen and related workers	4	.	0.1	.
Transport and communication occupations	151	.	5.2	.
Craftsmen, production process workers and labourers, n.e.c.	1 211	.	41.7	.
Service, sport and recreation workers	386	.	13.3	.
Workers not classifiable by occupation	26	.	0.9	.

Source: *Census of India, 1961*, Vol. 1: *India*, Part II-B (ii): *General economic tables* (New Delhi, 1966), pp. 525-552, and Part II-A (ii): *Union primary census abstracts*, pp. 168-171.

(Source: Lubell, 1974, 52)

The study estimates that the registered employment statistics only cover two-thirds of the working population in West Bengal and Metropolitan Calcutta (46). Due to the fact that 'Information on organised transport, trade and services is sparse and is almost non-existent on the unregistered parts of these sectors ...' (93) the study speculated that almost one third of the urban labour force in these sectors could be classified as the informal sector.

Data Problems

Foremost of the limitations of the study's operational definition of the informal sector as the 'unregistered' sector was its consequent underestimation of overall informal sector size. Operationally, this definition appeared to be an insufficient means of identifying the manufacturing sector in particular, thereby limiting its sectoral description of the informal sector. The study itself alludes to the problem of data collection in stating:

> 'Information on the unorganised or informal sector of metropolitan Calcutta's urban economy is at best obtainable only indirectly. It is, for example, possible to estimate employment in the informal sector from census data or from household survey data, but only as a residual between the census or survey aggregates and administrative data obtained on a regular basis directly from enterprises and government entities. By their nature, the constituents of the informal sector do not lend themselves to direct quantification because of smallness of scale, lack of formal registration or licensing and often the lack of a fixed place of activity' (25).

Concluding Remarks

In this study, the elusiveness of the informal sector is demonstrated at its best. One of the limitations was the lack of reliable statistics. Beyond this, the serious definitional and methodological limitations in the existing statistical figures (including those stemming from varied secondary sources) makes the data wholly unusable.

PAKISTAN

'Pakistan's Informal Sector' by Stephen Guisinger and Mohammed Irfan

(Journal of Developing Studies, July 1980, 16(4)) pp 412-426

Introduction

The city level data within this country-level study draws mainly from Rawalpindi and urban Punjab (including Karachi). The growth of the informal section is described there both in relation to macro-level aggregate demand as well as micro-level organisational determinants. With reference to wages and employment growth in Pakistan's informal sector between 1960-75, the study demonstrates that the diameters of the informal sector tertiary sector's growth potential are not limited to absorption capacity, but can extend into sharing in the overall growth of the economy (as measured by wages increases).

The paradox of real wages growth in a labour surplus economy is explained in the trickle down of growth benefits in the 1960s from thriving agricultural and large scale manufacturing industries to other sectors; meanwhile, the limited income differentials between the formal and informal sectors is explained by mobility between these two labour markets (412). Included in the data provided is information on money, wages and real wages growth rates in selected formal and informal sector occupations and the distribution of workers in this sector.

Definition of the Informal Sector

The study uses size as the main criterion differentiating formal versus informal sector activity in a dual classification of non-industrial establishments with fewer than 20 workers, and industrial establishments with fewer than 10 workers (413). Unlike other studies, the Pakistan case study does not seem to isolate income as an implicit defining criterion. As a result it found a large number of informal sector workers in the 'finance and insurance' industry group ('primarily independent agents who may work in association with formal sector establishments ... but are not strictly employed by them' (415).

Sampling Base and Measurement

The data base is drawn from a combination of sources including the PIDE survey drawn from the information gathered on 1,500 earners in Rawalpindi, and census information assumed from household surveys. Detailed descriptions of the sampling bases and techniques of measurement employed and derived from these surveys for the purposes of this study were not available. The study, however, refers to a detailed description of the PIDE (Pakistan Institute of Development Economics) survey in K Hamdani,(1977) 'Education and Income Differential: An Estimation for Rawalpindi City', The Pakistan Development Review, Summer 1977.

Size/Sectoral Composition

As shown in table 13.1, a sectoral division between the formal and informal sector is made into nine sectors. Among other size estimates of the informal sector is that of urban Punjab province, with some 70% of the labour force concentrated mainly in wholesale, retail, and hostel, community and social service categories (413).

Table 13.1

INDUSTRIAL DISTRIBUTION OF EMPLOYMENT BY FORMAL/INFORMAL CATEGORIES.*
PAKISTAN 1972–73. (URBAN) (000) PERSONS.

	Total Employed (1)	*Formal* (2)	*Informal* (3)	*Percentage Distribution* *Formal* (4)	*Informal* (5)	*Sectoral Employment as Per cent of total* (6)
1. Agriculture	376.9	0[1]	376.9	0	100	9.06
2. Mining	66.57	15.5	50.93	23.28	76.72	1.60
3. Manufacturing	759.93	497.1	262.83	65.41	34.59	18.21
4. Construction	287.03	59.30	227.73	20.65	79.34	6.90
5. Wholesale & Retail Trade & Hostels, etc.	946.92	10.80	936.12	1.15	98.85	22.71
6. Transport	345.59	133.20	212.39	38.54	61.46	8.29
7. Finance Insurance & Retail Estate	96.36	31.10	65.26	32.28	67.72	2.31
8. Community & Social[2] Services	1,211.15	540 20	670 95	44 61	55.39	29.05
9. N.E.C.	78.15	3.0	75.15	3.84	96.16	1.90
All	4,168.59	1,290 3	2,578.29	30.95	69.05	100.00

Source: Col. (1) 'Housing, Economic and Demographic Survey 1972' by Central Statistical Organization (Unpublished).

Col. (2) 'Establishment Enquiry 1972-73' Statistical Division, Ministry of Finance, Planning and Development, Government of Pakistan, Karachi (Undated).

Col. (3) = Co. (1) − Col. (2).

Notes: [1] Establishment enquiry reported 57,000 employees in the Agriculture formal sector, but on perusal of the list of establishments for 1973–74, it was found that 'formal' agriculture consists mostly of government agriculture extension services, hence they are included in community and social services; the rest of agricultural employment is treated as informal.

[2] Electricity, Gas and Water sector is included in community and social services.

* Formal Sector pertains to establishments having employment size of 20 or more workers in the non-manufacturing sector and 10 or above in manufacturing.

(Source: Guisinger and Irfan, 1980, 113)

The employment status of informal sector workers by age for Rawalpindi informal sector is provided in appendix 28, which concludes that the ratio of self-employed workers in the informal sector rises with age. (PIDE survey 1975)

Earnings Data

In table 13.2 below, a cross-section of wages in the informal sector is compared to formal wages for skilled industrial labour and public sector workers in Rawalpindi (1959 and 1975). As shown, the wages in the formal sector are generally higher, although wages for taxi drivers compete favourably with those in the formal sector, with a decline over time for real wages for most of these informal sector occupations (except for cooks) (see table .3.3).

Table 13.2

WAGES BY OCCUPATION
RAWALPINDI

	Primary Occupation Code	1959 Monthly Wage	1959 Number in Survey	1975 Number in Sample	1975 Monthly Wage	Index 5 – 2 (1959 = 100)	Index of Consumer Prices (1959/60 = 100)	6 ÷ 7
Informal Sector								
Hawkers	45	66	837	81	292	442	317	139
Tailors	79	106	1,775	42	260	245	317	77
Cooks	53	60	1,037	13	238	397	317	125
Domestic Servants	54	37	1,613	11	96	260	317	82
Tongawallas/Taxi Drivers	98	123	1,625	118	409	333	317	105
Launderers (Dhobies)	56	77	462	8	213	277	317	87
Barbers	57	72	712	26	263	365	317	115
Cobblers	80	75	137	11	285	380	317	120
Formal Sector								
Industrial Labor (Skilled)	—	125	538	22	447	357	317	113
Government Civil Servants	—	231	33,494*	222	491	212	317	66

Source: For 1959-60: *Socio-Economic Survey*, Rawalpindi, 1959.
For 1975: *Rawalpindi Survey*, PIDE, 1975.

- Unusually large number of civil servants due to Rawalpindi's use as temporary seat of central government.

(Source: Guisinger and Irfan, 1980, 418)

Table 13.3

RAWALPINDI – INFORMAL SECTOR WAGES
(Selected Occupations 1959-60, 1970, and 1974)
(Rs Per Month)

Occupation	*Money Wages* 1959-60	1970 June	1974 June	*Annual Growth Rates* *Money Wages* 1970 over 1959-60	1974 over 1959-60	1974 over 1970	*Real Wages* 1970 over 1959-60	1974 over 1959-60	1974 over 1970
Barbers	72	137	200	6.7	7.6	9.8	2.6	6.5	−3.0
Carpenter	92	400	600	15.8	14.3	10.7	11.6	7.0	−3.2
Cook	60	100	175	5.2	7.9	15.0	1.2	1.1	0.7
Masons	103	400	600	14.5	13.4	10.7	10.2	6.2	−3.2
Unskilled Labors	60	200	300	12.8	12.2	10.7	8.5	5.1	−3.2
Presser in Laundry	77	150	235	6.9	8.3	11.9	2.8	1.4	−2.1

Source: 1959-60: *Socio-Economic Survey of Rawalpindi*, CSO, 1959.
1970 and 1974: Wages of workers in the organized industrial and informal sector. 1970-74 Planning Commission, Pakistan.

Note:
1. Barbers' wages for 1970 and 1974 are unadjusted for food and accommodation
2. Wages for Carpenters and Masons unadjusted for accommodation, tea and Rs 500 as annual bonus for 1970 and 1974.
3. Wages for unskilled worker are unadjusted for accommodation, tea and Rs 200 annual bonus. Besides the wages reported for 1970 and 1974 are for unskilled worker in construction establishment, but for 1959-60 it is 'unskilled labor' as general category.
4. Presser in Laundry, the wages reported for 1959-60 are for washerman/dhobies.
5. For 1970 and 1974 the wages are averaged over the two establishments for all occupations. The establishments are in the informal sector, i.e., employing less than 10 persons.

(Source: Guisinger and Irfan, 1980, 420)

Earnings data for informal sector occupations as against formal sector wages of a weaver in Karachi, table 13.4 shows that mason, carpentry and bricklaying occupations absorbed most real wages growth, as seen in three comparative time periods, 1959-70, 1959/69-74 and 1970-74. Though many informal sector workers earn below the formal sector wages of a weaver (eg, cooks, bearers, laundry workers, barbers, unskilled labourers), a number of informal sector workers earn comparable, if not higher, wages. Similarly, the real wages growth rate for the informal sector occupations in Karachi, though varying widely, is often higher than that in the formal sector, as shown in the comparison between informal and formal weaving activities (see table 13.4).

Table 13.4

KARACHI – INFORMAL SECTOR WAGES
1959-60, 1969-70 and 1974-75
(Selected Occupations) Rs Per Month

	MONEY WAGES			ANNUAL GROWTH RATES					
							Real Wages Growth Rate		
Occupation	1959-60	June 1970	June 1974	June 1970 over 1959-60	June 1974 over 1959-60	June 1974 over 1970	June 1970 over 1959-60	June 1974 over 1959-60	June 1974 over June 1970
Sales/Shop Assistant	85.25	237.50	383.00	10.7	11.1	12.7	6.6	4.1	−1.9
Cook	77.75	200.00	327.50	9.9	10.9	13.0	5.8	3.8	−1.0
Bearer	64.00	90.00	162.50	3.5	6.9	12.5	−0.5	0.1	1.5
Laundry Workers	81.75	170.00	295.00	7.6	9.6	14.7	3.5	2.7	0.3
Barber	82.50	135.00	275.00	5.0	9.0	19.4	1.1	2.0	4.5
Carpenter	113.00	390.00	1,037.00	13.2	17.1	28	8.9	9.7	11.7
Mason	116.75	468.00	843.00	14.9	15.2	15.9	10.5	7.8	1.4
Bricklayer	90.75	464.00	843.00	17.7	17.2	15.9	13.3	9.9	1.6
Unskilled Labor	69.00	117.00	321.00	5.4	11.6	29	1.5	4.5	12.7
FORMAL SECTOR									
Weaver	95.25	200.50	344.50	6.5	9.7	14.5	3.7	2.7	0.2

Source: For 1959-60 'The People of KARACHI – ECONOMIC CHARACTERISTICS', G. M. Farouq, PIDE, July 1966.
For June 1970 and June 1974 'Wages of workers in the organized industrial and informal sectors 1970-74', Planning Commission, Pakistan.

Notes:
Column 1: The reported wage is median of personal income for all occupations.
Column 2 and 3: Average wages of two establishments in the informal sector.
Row 1: For sales/shop assistant, the comparable 1959-60 category is 'other sales workers'.
Row 2 and 3: The wages are not adjusted for free boarding and lodging facilities.
Row 4: For laundry workers 1959-60 occupational category is washerman and for other years it is presser in drycleaning establishments of employees less than five.
Row 9: Unskilled labor refer to those employed in construction firms in informal sector for 1970 and 1974, and to general unskilled labor in 1959-60.
Row 10: For weavers' wages for 1970 and 1974 derived from the average wages reported in two largesize textile mills: wages are not adjusted for non-cash benefits like medical facilities and the provident fund contribution. The reported wages, however, include all cash allowances including bonus. For 1959-60, weavers include workers in both the formal and informal sectors.
* Cost of living index for industrial worker is 147 for June 1970, 250 for June 1974 with 1959-60 = 100.

(Source: Guisinger and Irfan, 1980, 419)

Data Problems

The irregularity of data collection in the informal sector and fragmentary evidence on wage trends for this sector limited the accuracy of the data on real wage growth rates and the conclusions drawn from it.

Flaws in Definition

In contrast to the ILO's informal sector definition, the study does not screen the ISIC classification for irrelevant urban informal sector employment categories (eg, mining and utilities, agriculture), preferring to use these additional categories as explanatory variables for labour absorption in the economy. Additionally, the study does not discriminate between self-employed, salaried employers and casual workers. Because of this failing, the gap between formal and informal sector wage distinctions may or may not have been underestimated or misread.

Concluding Remarks

The Pakistan study tries to demonstrate empirically that the informal sector can benefit from the gains of economic growth and therefore compete favourably with the formal sector as a means of poverty alleviation and upward mobility. While the study posits this as a conclusion specific to the Pakistan context described, it would seem that the expected differences between the informal and formal sector are overdeterministic. At the same time, the problems with data measurement instruments would seem to limit the certainty of this assertion.

INDONESIA: JAKARTA

'Occupational Mobility and the Informal Sector in Jakarta' by Hazel Moir in The Urban Informal Sector of Developing Countries , ed S V Sethuraman (Geneva, ILO: 1981)

Introduction

In the context of Jakarta's reputation as one of the fastest growing cities in south-east Asia (with a rate of population-growth in 1971 of 12.8% (109)), the study positively views the informal sector as a source of upward mobility in relatively adverse circumstances.

Definition

The Jakarta study identified the informal sector through household clusters. Of the 7 ILO characteristics, only 2 characteristics, that of unregulated and competitive markets, were clearly identifiable. However, only the latter was used as an exclusive characteristic, based on respondents' complaints of competitive market conditions (118); whereas the unregulated market characteristic was abandoned as an exclusive criterion with the inclusion in the sample of registered enterprises.

Sampling Base and Measurement

The sampling technique involved a four-stage sampling frame, identifying the informal sector through household clusters (27). The sampling base accounted for 5,359 participants in the informal sector either as heads of enterprises, paid or unpaid labour (110). A direct consequence of the sampling procedure is the underrepresentation of family labour and women's participation in the informal sector, putting female participation at only 25% (110) when:

> 'Data collected from 4,364 heads of households suggest(ed) that the population in them is evenly divided between males and females' (109).

This would seem to be a consequence of the undervaluing of women's work, following from the restriction of 'the question of wage payments to wage earners only' (114).

Size/Sectoral Composition

The study estimated the size of the informal sector as comprising almost half of the employed population of over 1 million in Jakarta (109). The data showed that 90% of informal sector participants are concentrated in 2 occupational categories: 63% in sales and 28% in production (112). Although the survey collected data on manufacturing, construction, trade and services categories, the size of distribution between the categories was not given. 'Only 10% of the informal sector enterprises in Jakarta had workers in addition to the head of the enterprise' (115). of these, 3/4 had between 1 and 3 workers in addition to the owner. However, the average size per enterprise was 1.33 (out of a sample of 436 enterprises, there was a total workforce of 5,802 persons, including the head (115): 81% (or 4,367 persons) of the sampled participants were heads of enterprises, making 1 out of 5 paid or unpaid workers (119)). Only a quarter of sampled participants were women (110). The median age of participants was between 35 and 39 years, with only 18% of the sample under 24 years of age, and 25% above 44 years (110).

Output

Output comparisons between enterprises, as measured by gross value added per worker, varied considerably. Whilst the study found that 28% of the enterprises had a gross value added per worker per week of over Rp 15,000 (or US$36), the median value was round Rp 7,000 (or US$17 per week, or US$ 800 per year), three times the annual per capita income of US$240 in 1976 (116). Because of the high incidence of single person establishments, the net return to heads is also put at Rp 7,000 per week (116). The average value added per enterprise was Rp 8,448 (or approximately US$21 per week).

Based on estimates of the size distribution of the informal sector (41% in informal sector) and estimates of average value added per worker per year, the study approximates a generation of US$ 400 million in gross value added in the mid 70s, or 30% of the US$ 611 million regional gross domestic product in 1971, described as 'exclud(ing) much of the income generated in the informal sector' (117).

Enterprise Data

The age distribution of enterprises was given as 10.6% under a year old (during the year preceding the survey), with a 'gross annual birthrate' of informal sector enterprises of 12%. Age of enterprises distribution was as follows: 21% between 1 and 2 years, 30% between 2 to 5 years, 19% between 5 to 10 years and 20% over 10 years (115).

Due to the high proportion of trade enterprises, over one-third of the sampled enterprises did not have a fixed location. Half of those in variable location were in trade (as hawkers), a quarter in transport and 6% in manufacturing (114).

Earnings

From the data collected from 200 enterprises, the average daily wage paid to workers ranged from a minimum of Rp 468 to a maximum of Rp 611, with higher minimums and maximums in manufacturing. The median daily wage was Rp 500 (US$1.25), and assuming an average of 25 working days per month, the average monthly wage was put at Rp 12,500 (116). Overall, then, the range of workers earnings was confined to fairly narrow limits in the informal sector. By contrast, the median earnings of entrepreneurs was put at twice that of the workers' median wage (116), the latter not necessarily a sufficient means of income, since, however, 'only a few wage workers seem to earn incomes comparable to the minimum in the formal sector' (116).

Only 13% of enterprises 'were subjected to seasonal fluctuations in hours of operation' as against 74% who had fixed hours of work. In the latter group, the number of hours worked was 9 (115). One third of male earners received wages on a daily basis; 29% on a weekly, and 18% on a monthly basis. Of the wage earners, over half of the males, 2/5 of the female participants, worked for over 8 hours a day (114).

Occupational Mobility

The concentration of informal sector participants in 2 groups of activities demonstrated little inter-job mobility. But the length of job tenure suggests for both males and females 'there is a considerable amount of labour turnover among the wage employees in the informal sector' (113). Thus, only 40% of male wage earners held current jobs between 1 and 2 years, 18% for less than a [illegible] corresponding figures for female wage earners showed 47% of them to hol

Linkages

In relation to linkages, the study diminishes the importance of informal sector/formal sector linkages (117). In terms of backward linkages of raw materials purchase, 50% of enterprises depended on small enterprise sources and a further 22% to other sources. The study found that forward linkages were predominantly to consumer markets, with 87% of enterprises selling goods and services exclusively to households and the remaining to other small enterprises and households. (117).

Growth Constraints

The study reports 3/4 of enterprises faced with constraints c expansion. According to the subjective appraisal of respondents, 30% identified lack of demand, 35% lack of capital, as constraints, while government policies and lack of premises were cited by only a few enterprises (118).

Conclusion

Apart from its data limitations, the study describes several distinguishing features of the Jakarta employment problem - a high degree of labour force growth and corresponding high proportion of informal sector labour absorption, characterised by competitive market conditions. While the informal sector of Jakarta offers job mobility in the sense of supporting a fairly sizeable informal sector labour force, the competitive labour market conditions ensure that at least for the majority of wage workers or the self-employed, job stablility is short term. Neither does the level of earnings in this predominantly tertiary (distribution) sector seem to secure much scope for income mobility.

PHILIPPINES: MANILA

'The Manila Informal Sector: In Transition?' by Gonzalo M Jurado, et al
in The Urban Informal Sector of Developing Countries, ed S V Sethuraman,
(Geneva, ILO: 1981)

Introduction

In the context of continuing internal migration, this city level study looks at the role of the informal sector, particularly in terms of its importance 'in absorbing labour and bridging the income gap between the urban and rural incomes' (121). Though the study did not offer size projections of the informal sector and its sub-sectors, it did provide estimates of the proportions within various sectors (in manufacturing, transport, services, trade) as well as output and productivity measures (value added, and earnings levels of workers).

Definition

The derivation of the data from national census statistics in this case made the study operationally dependent on the size criterion of under 10 workers per enterprise as a means of identifying the informal sector.

Sample Base and Measurement

The sampling frame used in this study 'relied on a readily available sampling frame of small establishments (under ten workers) compiled by the National Census and Statistical Office', originally in 1972, in addition to 'new enterprises that were added to the list between 1972 and 1975' (27). From this list, 3,500 enterprises were selected according to a stratified, simple random sampling procedure and surveyed from March-May 1976. The sampling procedures, however, led to a biased representation of activities operating in a fixed location, with over 95% of sampled enterprises located in permanent structures (122).

Size/Sectoral Composition

The sample distribution in the study revealed 'the overwhelming importance of trade activity in the Manila informal sector' (121). 71% of sampled activities were thus in trade, as compared to 15% and 12% in the services and manufacturing sectors (121). The informal sector, comprising 2,492 enterprises, therfore correspondingly supported the largest section of the labour force, with 7,600 workers including the owner, on average with 3 persons per enterprise (131). The services sector included 535 enterprises providing employment for about 1,700 persons. The average size of the enterprise was 3.2 persons per enterprise, while the median size was 2.25 persons per enterprise. Enterprise size was typically varied in this sector: 'only a quarter of the total (number of enterprises) were single person units; 20 per cent each had two and three workers; 13 per cent had four persons; and the remaining 22 per cent had five or more persons' (135). The manufacturing sector in the sample consisted of 402 units, employing about 1,566 persons (with close to 4 persons per enterprise including the owner)(122). The transport sector occupied only 53 units within the sample, providing employment for 127 persons (excluding owners) (129)

A branch distribution was provided for the manufacturing and transport sectors. Within the manufacturing sector, two-thirds of the enterprises were in the textiles, wearing apparel and leather products branch (excluding footwear); 11% in food processing, 6% in wood and related manufacturing; and a further 8% in metal-related manufacturing (121). In the transport sector, the sample included 20 Jeepney operators, 15 motorised tricycles, 8 calesa operators, and 10 freight truck operators.

Labour Structure

While some degree of variation in the labour force characteristics within these sectors existed, there were some similarities. Over half of the sample enterprises in the manufacturing sector, for example, 'did not have any employees at all', while over one-third of the 90% workers employed on a full-time basis in this sector were females (122). In transport, 96% of the operators were males and similarly, 'Most of the workers (83 per cent) were employed on a full-time basis (40-50 hours per week)' (129). In the services sector, 82% were wage workers (or 1,050 persons) and the rest unpaid family workers. Of the wage workers, 64% were males and the rest females.

In the trade sector, '58 per cent of the enterprises did not have any wage workers; and 12 per cent each had one and two workers. These figures imply that on the average, an enterprise had only one wage worker , 90% of whom were employed on a full-time basis, and half of whom were females', indicating that female participation in wage employment in Manila is 'higher than elsewhere' (131). At the same time, however, the study notes that 'The overwhelming importance of unpaid workers, almost all family members of the owners, suggests significant underemployment; not all of them are fully occupied for the whole duration of the working hours. It also explains the unusually long hours of business ...' (131).

Capital Usage

Capital assets (excluding land and building costs) in the manufacturing sector varied from 50 pesos to 150,000 pesos, with an average of 8,000 pesos per enterprise (123). The average value of capital investment for enterprises in the transport sector were estimated at 28,000, 10,200 and 4,000 pesos for jeepney, motorised tricycles and calesa vehicles, suggesting 'an incredibly high gross rate of return on capital ... (which, however) ... is somewhat exaggerated owing to the exclusion of assets in the form of buildings and the like at least for some enterprises and the assumptions regarding capital utilisation' (130).

Appendix 32 gives a distribution of enterprise by size of fixed capital owned, varying widely from 0 for 25.3% of the enterprises, to 15,000 for 7.5% of the enterprises, with respective mean and median values of 3,000 and 700 pesos per enterprise (132).

Output and Productivity Measures

Estimates of gross value added per week for enterprises within the manufacturing, trade, transportation and services sector are presented below in table 15.1. The median value for gross value added per week per enterprise is given at 260 pesos, average 425 pesos. Thus, 'Taking the average of four workers per enterprise these figures imply a weekly gross value added figure of 65 and 106 pesos per worker respectively (or 11 and 18 pesos per day, assuming a six-day working week). The average labour productivity would thus seem to exceed the legal minimum daily wage of 10 pesos' (124).

Table 15.1

Distribution of enterprises by gross value added per week

(per cent)

Gross value added (in pesos)	Manufacturing	Trade	Transportation	Services
Total	100.0	100.0	100.0	100.0
Under 50	17.9	27.8	20.9	20.9
51 - 99	10.0	6.6	9.0	10.1
100 - 149	9.0	6.9	9.0	9.0
150 - 199	9.0	6.3	5.8	6.7
200 - 299	10.1	8.3	7.5	9.7
300 - 399	8.0	5.7	9.0	7.3
400 - 599	11.9	9.2	7.5	8.4
600 - 799	6.2	5.1	4.5	4.7
800 - 999	3.0	3.4	3.0	5.0
1 000 - 1 499	5.7	6.2	4.5	6.4
1 500 and above	9.2	14.4	19.4	11.8

(Source: Sethuraman, 1981, 124)

With reference to manufacturing, the study states that:

> 'The manufacturing enterprises seem to compare favourable with their formal sector counterparts in terms of efficiency' (141).

Appendix 33 provides a comparison between 'value added and employment per unit of capital' invested in the Manila informal sector as against the organised manufacturing sector in the Philippines. In relation to this, the study makes three observations:

> 'First, the data for the organised sector in the country as a whole suggest a trade-off between employment and value added as the size of the firm is increased: while the smaller ones generate more employment, the larger ones contribute more value added. Second, the data based on small and medium industries survey in Manila suggest that employment and value added per unit of investment are comparable to the figures quoted for the Philippines as a whole. Third, ... the evidence from the informal sector survey in Manila suggests not only more employment but also more value added, for the same amount of investment, than the organised sector' (124).

Earnings

The study provides estimates for sectoral wage levels. In the services sector, the average daily wage was 9 pesos (or 2,700 pesos per year, assuming 300 working days per year)(137). Median and mean earnings of entrepreneurs in this sector was 150 and 318 pesos per week respectively (137). The average minimum and maximum wage paid to females was 7.96 and 10.83 pesos per day lower than the 8.37 and 12.21 paid to males.

In the manufacturing sector, a large majority paid wages to male workers below the legal minimum, with women paid even less than the men. In comparison to the formal sector where the average wage was about 7,917 pesos per year (or 14,000 pesos per year in 1976), workers in the informal manufacturing sector receive less than a quarter of their counterparts in the large establishments.

In the trade sector, the average wage for males was 8 pesos per day and somewhat lower for females. The mean and median weekly earnings of transport workers were 100 and 700 pesos respectively (129). As for the entrepreneurs or the owners of vehicles, the average net return per week per enterprise after meeting operating costs (including payment to workers) and maintenance expenses was 301 pesos for Jeepneys, 145 for tricycles and 126 for calesas (129), indicating some return on their capital.

In sum, 'Most of the heads seem to earn incomes substantially above the legal minimum wage of 10 pesos per day (say two or three times the latter). But a majority of the workers seem to earn a daily wage below the legal minimum; though the average is around the legal minimum in manufacturing and transport activities, it is significantly lower in trade and services. Females tend to receive a lower wage than males ...' in addition, '... a large majority work full-time, longer than eight hours a day and six days a week' (141).

Linkages

The relative importance of formal/informal backward and forward linkages for the respective sectors of the Manila economy is summarised in tables 15.2 and 15.3 below. Most enterprises depend either exclusively or partially on other small enterprises for their goods requirements. (Just under 40-45% for manufacturing, trade and services and just over 70% in the transport sector(s)). The high proportion of backward services linkages in the transport sector resulted from what is called the 'boundary system' (the leasing of indigenous transport vehicles). Most of forward market linkages were directed towards households and individuals (140), the majority of whom were found in the middle income bracket; consequently, this put 'the informal sector in competition with the formal sector' (142), mainly directed towards consumer markets.

Table 15.2

Backward linkages: Distribution of sample enterprises by sources of inputs and by sectors
(per cent)

From whom goods and services are bought	Manufacturing	Trade	Transportation	Services
1. SOURCES OF GOODS				
Households only	8.7	9.5	9.0	6.9
Small enterprises only	45.3	41.3	43.3	43.0
Household and small enterprises	20.4	21.5	16.4	13.1
Large commercial and government enterprises	12.2	16.2	16.4	18.7
All of the above	9.0	6.2	6.0	5.4
Does not buy goods	3.5	3.4	6.0	10.1
No answer	1.0	1.9	3.0	2.8
All	100.0	100.0	100.0	100.0
2. SOURCES OF SERVICES				
Households only	8.2	11.1	10.4	9.0
Small enterprises only	26.9	20.1	34.3	20.9
Household and small enterprises	7.2	5.8	11.9	6.7
Large commercial and government enterprises	1.5	2.0	9.0	3.0
All of the above	3.7	1.3	3.0	0.6
Does not buy services	54.7	57.7	28.4	57.2
No answer	0.7	1.9	3.0	2.6
All	100.0	100.0	100.0	100.0

(Source: Sethuraman, 1981, 127)

Table 15.3

Forward linkages: Distribution of enterprises by sectors
(per cent)

To whom goods and services are sold	Manufacturing	Trade	Transportation	Services
Households and individuals	95.3	96.2	85.1	96.1
Other small enterprises	1.2	2.6	2.6	1.9
Big commercial/government enterprises	0.0	0.4	0.4	1.3
All of the above	0.0	0.0	0.0	0.0
No answer	3.5	0.1	0.1	0.7
All	100.0	100.0	100.0	100.0

(Source: Sethuraman, 1981, 127)

Growth Constraints and Expansion

Access to captial was seen as 'The major constraint in expansion ... since over 90 per cent relied on own savings for such investment'. The terms of enterprise survival and expansion were seemingly favourable since 'With regard to expansion, less than a sixth of the sample units experienced a decrease in demand in recent years; a significant proportion seem to have improved their methods of operation and the range of goods produced and sold' (142)

Conclusions

This study is unusual in its identification of the importance of linkages between the formal and informal sector both in the manufacturing and transport sector. In Manila, it is apparent that the relatively favourable measures of output and productivity registered in the informal sector were related to the high proportions of unpaid family labour registered in this sector.

SRI LANKA: COLOMBO

'The Informal Sector of Colombo City' by the Marga Institute (Marga Institute: 1979) and 'Informal Sector Without Migration, the Case of Colombo' by the Marga Institute in "The Urban Informal Sector of Developing Countries", ed. S V Sethuraman (Geneva ILO: 1981)

Introduction

The two documents on Colombo provide complementary data sources to describe this city level study. As 'The Informal Sector Without Migration' suggests, the distinguishing characteristic of Colombo City is the low population growth rate (1.2% between 1963 and 1971)(Marga Institute, 1979, 23). The cross section city level study provides estimates of the disaggregated data on the size distribution of the informal sector in addition to data on employment, and income and output.

Definition

The Colombo City case study draws on 5 criteria to identify the informal sector enterprises and activities including those:

'- which employed less than 5 persons,
- where the employment itself was informal in character and often formed part of a family enterprise,
- where the investment in buildings and equipment was quite low and the technology labour-intensive clearly distinguishing these informal sector enterprises from the levels of capital investment and technology in the formal sector,
- where the management systems were simple with a minimum of documented controls and,
- where the technological know-how and operating skills required for the enterprise had most frequently been obtained outside the formal educational system' (25).

The study therefore draws on the main 7 ILO characteristics defining the informal sector, but uses a more restricted version of the ILO size criterion of under 10 workers.

Sampling Base

The sampling base comprised 1,200 informal sector enterprises selected on a quota basis (ILO 1981: 132) according to estimates of the sectoral size distribution and composition of the informal sector. The sample was based on a 3 stage sampling procedure based on household survey data collected between 1976-1977 at the residential level, isolated by pockets of identifiable informal sector activity. Among the biases reflected in the data was the predominance of the trade sector , followed by services.

Evidence of sampling unrepresentativeness is suggested in the low number of young informal sector participants under 24 as compared with the total population of urban unemployed in this group (75%). Though no similar hints are made in the survey as to biases in sex distribution, there may be a similar underestimation of female participation.

Size/Sectoral Composition

At the city level, the study estimates the size of the informal sector as 20% of the total urban labour force (101, ILO 1976), employing 34,400 persons (Marga Institute 1979: 27). In table 16.1 below, a breakdown of the informal sector labour as compared to the total labour force is provided. (see table 16.2).

The sectoral distribution of these enterprises appears in table 16,2 below, showing the dominance of the trade and commerce sector with over 56.6% of total enterprises, followed by services and manufacturing and processes sector with 21.68 and 12.35% of aggregated enterprises respectively. A sectoral distribution of informal sector labour force correspondingly reflects a higher labour absorption capacity for the trade and commerce sectors (see appendix 28).

Table 16.1

Estimated Population, Employed Population, Estimated Number in Formal Sector and in Informal Sector in the City of Colombo

Total Population	Total Number Employed	Number Employed in				No. of Informal Sector Units
		Formal Sector	Informal Sector			
			Total	Residents in City	Commuters to City	
562,426	178,594	144,204	34,390	24,490	9,898	30,058

(Source: The Marga Institute, 1979, 27)

Table 16.2

Informal Sector Units of Enterprise Classified by major Categories of Activity

Major category of activity	Percentage	Estimate Number
Trade & Commerce	56.60	16,115
Manufacturing & Processing	12.35	3,712
Services	21.68	6,517
Transport	8.02	2,448
Agriculture & Fishing	2.94	843
Construction	1.41	423
All Categories	100.00	30,058

(Source: The Marga Institute, 1979, 27)

Eighty-five per cent of the enterprise sample were manned by one person and characterised by owner self-employment. The average persons engaged per enterprise was given as 1.14 (see appendix 29).

The age/sex distribution of informal sector participation shows an overwhelming dominance of males in the labour force. Females only represented 12% of the sample, compared to 88% male participation (see appendix 30).

The literacy level of informal sector participants (as measured by years of schooling) reveals a fairly high level of educational attainment with over 10 years schooling for 12%. The ethnic distribution revealed an ethnic clustering around certain activities. The Singhalese, for the most part predominate in vegetable, fruit and fish trades, the Tamils the junk trade and a large portion of transport, for example, while food processing is distributed amongst various ethnic groups (The Marga Institute 1979:82).

Enterprise Data

In the absence of data for 'the analysis of investment and capital employed, the return on capital, employment per unit of capital, output per unit of capital and similar indications of efficiency and profitability' (72), the study relied on data such as the structure of credit.

A peculiar feature marking the 'relatively stable working community' (The Marga Institute 1979: 86) represented in the informal sector is the comparative 'old age' of the enterprise, with over 63% of them in existence for over 5 years and 42% over 10 years.

The financing of enterprise development as suggested by sources of borrowings by informal sector participants shows a predominance of informal services such as family and relatives, although institutional sources contribute a not insignificant portion with 14.05%. As seen in table 16.3, 70% of units used personal resources to obtain capital. Whereas the location of most enterprises is fixed (65%), the types of units supporting their operations vary widely from 'open pavements without structure and in fixed locations and berths' to those on public land in semi-permanent and permanent structures (The Marga Institute 1979: 33), with correspondingly varied cost implications for enterprises.

Table 16.3

Percentage Distribution of Sources of Capital for Establishment of Informal Sector Enterprises

Sources of capital	Percentage
Own resources	70.3
Relations	6.3
Friends	10.9
Pawn brokers	1.6
Private money lenders	4.7
Banks and other institutions	6.2
All sources	100.0

(Source: The Marga Institute, 1979, 34)

Earnings

As stated in the study, 'One indication of productivity and the value added in the informal sector is the range of incomes earned in the sector' (The Marga Institute, 1979, 79).

The median daily income reported in trade and services sectors was around Rs19, comparable with 1977 average daily earnings in large scale manufacturing in Sri Lanka (Sethuraman 1981, 104). The variations of earnings by sex (see appendix 31) within the informal sector show a marked variation between the bottom 25% and the top 10%, with incomes ranging from Rs 10 per day to Rs 100 per day (Sthuraman 1981, 104). Estimates of per capita income per month are given as Rs 100 or US$ 8 per month. Combined estimates of secondary/ additional earners inflate this monthly income per household to Rs 741 (Sethuraman 1981, 106): 'These figures imply that the informal sector does not generate income adequate to meet the basic needs of households dependent on this sector' (Sethuraman 1981, 106).

Linkages

The study deduces a minimal if not negligible linkage between the informal sector and the formal sector. Two statements illustrate the rationale:

a) 'the preponderence of retail sales and services to households'.
(The Marga Institute 1979: 37)

b) 'There are a few examples of the intra-trade which prevails within the informal sector and the trade links between the informal and formal sectors. These exchanges which occur however, have a commercial character and seldom take the form of linkages in the production process between the formal and the informal sector where small scale units supply intermediaries to formal sector enterprises'.
(The Marga Institute 1979: 39)

At the same time, it is noted that there is:

c) '... a considerable volume of trade that goes on within the informal sector itself and between the informal units and the formal sector. This trade consists of the purchase of raw materials by informal sector units from the formal sector and the disposal of informal sector production through formal sector outlets' (37).
(The Marga Institute 1979: 37)

Flaws in Definition

The operational usage of several of the ILO defining characteristics as the criteria in the informal sector and the more restricted usage of the size criteria leads to underestimation of informal sector size.

Conclusion

The restricted size of the Colombo informal sector appears as the result of methodological definition arising from the exclusionary definition used rather than one broughtabout by the absence of migration. While the possibilities of informal sector development are not dismissed out of hand, the nature of constraints facing this sector are labelled as largely in-built constraints due to the high degree of competition promoted by skill development in this sector (98). The study also misinterprets the high degree of consumer market linkages as representative of the absence of formal/informal sector structural linkages (cross reference with Rogerson and Beavon, 1982).

THAILAND: BANGKOK

'Earnings of Self-Employed in an Informal Sector: A Case Study of Bangkok'

by Saral Teilhet-Waldorf and William H Waldorf (University of Chicago, 1983)

Introduction

This article provides a residential level study of 3 activities in the urban informal sector of a Bangkok neighbourhood - vending, brick hauling and carrying people, and shopkeepers. It challenges the dogmatic assertion that the informal sector provides the means for income mobility with its observation of higher average earnings in the informal sector than for comparable unskilled workers in formal sector jobs.

Definition

The underlying informal sector definition employed is ease of entry,(such as outside union enforcement or below minimum wage laws for brick people),low capital input, competitive market in particular referring to family ownership and reliance on indigenous goods, with selected features receiving greater emphasis than others.

Sample Base

The sample comprised 300 people in a 2 block urban neighbourhood in the Dusit district of Bangkok, which provided information on 79 self-employed persons. The sample, a biased selective sample of 3 occupations, included 45 vendors, 19 brick workers (carriers and haulers) and 15 shopkeepers (591). Data collection methods employed relied on 12-month participant observation, adding significantly to the quality of the income data, though limiting the scope of the study.

Size and Sectoral Composition

Due to the selectivity of the sample, no overall size estimates for the informal sector as a whole or in part were offered in this study. The 1970 Population and Housing Census for Changwat Phra Nakhon, which comprised a sample of vendors, brick workers (carriers and haulers)(including the Bangkok area) and shopkeepers, included a female population of 54% in hawking, peddlars and non-vending categories compared to 62% in the vendors category in the study (594-595).

The characteristics of the urban self-employed, 1973-1974, including the age, present and past work experience, schooling, migrant status, sex and ethnicity are presented in table 17.1 (593). This shows that 50% of the sample were in the working age 30-44 years; females represented 60% of the above category.

The data on the experience of the informants indicated a fair degree of job stability amongst the self-employed, while the schooling data revealed an overwhelming number of informants to have had formal schooling (594).

The high representation of migrants amongst informants reflected the contribution of migration to the growth of the urban informal sector. Thais were the most highly representative among ethnic groups.

Table 17.1

DATA ON CHARACTERISTICS OF URBAN SELF-EMPLOYED IN BANGKOK NEIGHBORHOOD, 1973–1974

	VENDORS	BRICK PEOPLE	SHOPKEEPERS	TOTAL SAMPLE	
	N	*N*	*N*	*N*	%
Age:					
Below 30 years	5	6	2	13	16.4
30–44 years	26	7	8	41	51.8
Above 44 years	14	6	5	25	31.6
Experience in present occupation:					
0–4 years	24	5	3	32	40.5
5–10 years	15	5	9	29	36.7
11+ years	6	9	3	18	22.8
Previous experience:					
Farmer	9	2	2	13	16.4
Other	36	17	13	66	83.5
Schooling:					
0–4 years	39	19	8	66	83.6
5+ years	6	0	7	13	16.4
Status:					
Born in Bangkok	11	2	6	19	24.0
Migrant, 0–4 years	4	2	1	7	8.8
Migrant, 5+ years	30	15	8	53	67.0
Sex:					
Male	17	5	10	32	40.5
Female	28	14	5	47	59.4
Ethnicity:					
Chinese	7	0	4	11	13.9
Other	38	19	11	68	86.0
N observations	45	19	15	79	100.0

(Source: Teilhet-Walforf and Waldorf, 1983, 593)

Earnings

Daily earnings for selected occupations in the informal sector as seen in table 17.2 below (596) 'were substantially higher than those for unskilled workers in the formal sector, both within the government and the private sectors' (595). Vendors, for example, earned three times the minimum wage rate in Bangkok (only 2 vendor respondents earned less than the unskilled wage rate in manufacturing of 1.28 per day, which was more than US$ 1 per day (595).

Table 17.2

COMPARISON OF SELF-EMPLOYED EARNINGS, WAGE RATES OF UNSKILLED WORKERS IN SELECTED SECTORS, AND MINIMUM WAGE RATE, BY SEX, BANGKOK, 1974
(US$ per day)[1]

Group	Males	Females	Total
Earnings, self-employed:[2]			
Vendors	3.36	3.52	3.44
Brick people	4.40	4.32	4.32
Shopkeepers	4.88	6.48	5.44
Wage rates, unskilled labor:			
Construction	1.14	.92	1.03
Manufacturing	1.40	1.15	1.28
Textiles	1.21	1.06	1.14
Government canal cleaners[3]	1.20	1.20	1.20
Minimum wage rate:[4]			
June	.80	.80	.80
October	1.00	1.00	1.00

Source.—From Trent Bertrand and Lyn Squire, "The Relevance of the Dual Economy Model: A Case Study of Thailand," mimeographed (Washington, D.C.: World Bank, 1979).

[1] Converted at official exchange rate: 1 baht = US$0.05.

[2] Earnings of self-employed for 1973–74 based on data for average hourly earnings times 8 hours.

[3] Figure is inflated to an 8-hour day; canal cleaners actually worked a 7-hour day for $1.05.

[4] A minimum wage of $.80 per day was introduced in February 1973 and raised in June and October of 1974.

(Source: Teilhet-Waldorf and Waldorf, 1983, 596)

Conclusion

Based on selected branch data for the service sector, the study's findings point to comparable earnings in the informal sector on par with formal sector earnings.

BRAZIL: SÃO PAULO

'São Paulo, Urban Development and Employment' by K Schaefer (Geneva, ILO: 1976)

Introduction

This study explores the labour structure of the predominantly industrial economy of São Paulo, Brazil, particularly in terms of the economic activities of small scale industries within both the formal and informal sectors, the characteristics of underemployment and income/employment transfer effects in the formal manufacturing sector and finally, the policy implications of the Sao Paulo city plan. The cross-section survey, however, contains little substantive data on the size, earnings and productivity of the informal sector.

Definition of the Informal Sector used

Identification of the informal sector was in fact prescribed by the study's reliance on census data. The operational definition was based on a combination of minimum wage, small scale establishments criteria, and identification of 'traditional' activities. Three definitions of size were utilised. The study maintained that 'the informal sector is a sector of transitional employment, providing employment opportunities to those unable to obtain immediate entrance into the formal sector' (98).

Sampling Base and Measurement

The sampling base and technique was reliant on its census data base. The data cited herein originally derived from IBGE: Censo demografico, 1970, special tabulations prepared for SERFHAU, except for the totals of small scale establishments calculated from Ministerio do Trabalho e Previdencia Social, Department Nacional de Mao de Obra, Divisao de Estudos do Mercas de Trabalho: Mercado de Trabalho: Composicao e Distribuicao da Mao Deobra, Sao Paulo, anode 1970 (n.d.) (14-27).

Size of the Informal Sector

The Sao Paulo study tests out the size of the informal sector according to different definitions. Using Merrick's sector definition of 'traditional' activities[15], it identified the size of the informal sector in São Paulo as 43.3% of the active labour force of 1,015,125 (excluding liberal professionals and those not declaring income). Using minimum wage as a distinguishing criteria, it estimated informal labour participation at 34.6%[16]. According to the data based on size criterion, 168,526 out of a total of 191,271 (or 88.1%) enterprises in Greater São Paulo (1970) were identified as informal sector, including self-employed persons (72).

Using this last definition and assuming an average of 4.5 employees per establishment, the study estimated the employment size of the informal sector at 758,367 or 24.6% of a total labour force of 3,081,790 in 1970 for the metropolitan area (72). Although the study maintains that 25% of the active labour force is primarily engaged in informal sector activities, by its own admission it implied that 35% to 43% in a more realistic, aggregate estimate taking criteria into account[17] (p73).

Sectoral Composition

'Although the informal sector is primarily operative in commerce and service activities, nearly 1/3 of the small scale establishments are to be found in the informal sector of the state's economy'.

Labour Force Structure

A comparison of appendices 34,35 and 36 shows that: 'a greater percentage of females than males, in all migrant categories, participate in informal sector activities. As was the case when using the sector criterion, both male and female migrants show a larger percentage in informal activities than non-migrants (see appendix 36). The larger percentage of women is undoubtedly explained by a large proportion of females employed in personal and paid domestic services, a sector which typically is one of low remuneration and characterised as informal'. As seen additionally in appendices 34 and 36 ... 'Fewer males are informal workers under the minimum wage criterion than under the sector criterion'.

Conclusion

Generally, the definitional problems encountered in this study make what little data available suspect. Though total sector and sub-sector estimates were given, the quality of the data makes it of little use. The lack of productivity data limits the utility of this study.

BRAZIL: CAMPINAS

'The Urban Informal Sector and Industrial Development in a Small City: The Case of Campinas (Brazil)' by Manoel Tosta Berlinck, Jose Muran Boyo and Luiz Carlos Cintra, in "The Urban Informal Sector of Developing Countries" ed. S V Sethuraman, (Geneva, ILO: 1981)

Introduction

This city level study surveys the informal sector of an intermediate urban centre with a population in 1970 of about 376,000, in the context of the declining role of agriculture in the economy (159). The significance of this focus arises from its suggestion that:

> 'the role of the informal sector is highly dependent on the size of the town/city, the role of migration and the stage and rate of economic development of the region' (167).

The data included sectoral distributions of enterprises according to capital invested, numbers of employees and earnings data.

Definition

As a basis for identifying the informal sector, the size criterion, specified was 10 wage workers or less per small enterprise including own account workers with or without unpaid family labour. For data analysis purposes however, the study measured size according to the amount of capital owned per enterprise (159).

Sampling Base and Measurement

The sampling base consisted of 500 units, 'divided in the ratio of 20:40:40 between industry, commerce and services respectively' (159), collected by means of a sample survey undertaken in 1976. The sampling procedure comprised 'a stratified ramdom sampling procedure where the two were divided into 40 zones and the sample size of 500 was allocated to them according to the level of employment prevailing in 1975' (27).

Size/Sectoral Composition

Size by Capital Invested

Table 19.1 below (160) shows the classification of sample units into 3 groups:

- Group I - capital up to Cr $10,000 (US$930) per unit
- Group II - capital between Cr $10,000 and 50,000 (US$930-4,650); and
- Group III - capital of Cr $50,000 and above.

The distribution of enterprises between sectors shows that the majority of industrial and commercial enteprises (67.9% and 52.9%) owned capital valued over Cr $50,000 (cruzeiros). For services, capital ownership was distributed more or less evenly between Group I and Group II, although 75.9% of shoe repair services had largely under Cr 10,000 of capital. In these terms, 'A striking feature of these units in Campinas is that they use substantially larger amount(s) of capital as compared to the informal sector units in other cities presented earlier (in Sethuraman 1981(') (160). Virtually all the initial capital investment came from savings through self-employment, friends or relatives, with only 2% from private banks. '60 per cent of those who acquired their capital through wage employment were in capital strata I and II' (161). Similarly, 81% of the sample who purchased capital equipment did so through savings, while only 8% acquired it through private banks (161).

Table 19.1

Distribution of sample units by activity and capital size (per cent)

Activity	Capital size (Cr$'000)				All units
	I (under 10)	II (10-50)	III (50+)	Total	
A. Industry	14.6	17.5	67.9	100.0	100.0
1. Tailoring	91.7	8.3	-	100.0	11.7
2. Garments	11.1	22.2	66.7	100.0	8.7
3. Metallurgy	3.2	29.1	67.7	100.0	30.1
4. Printing and publishing	-	10.0	90.0	100.0	9.7
5. Carpentry	-	15.4	84.6	100.0	12.7
6. Other	7.2	10.8	82.0	100.0	27.1
B. Commerce	20.7	26.4	52.9	100.0	100.0
1. Bars and groceries	11.0	29.7	59.3	100.0	43.7
2. Apparel and haberdashery	8.3	33.3	58.4	100.0	11.5
3. News stands	68.0	32.0	-	100.0	11.9
4. Peddlars	80.0	20.0	-	100.0	7.2
5. Other	3.7	16.9	79.4	100.0	25.7
C. Services	37.3	43.2	19.5	100.0	100.0
1. Shoe repair	75.9	20.7	3.4	100.0	15.7
2. Auto repair	6.1	45.5	48.4	100.0	17.8
3. Barber, beauty shops	38.9	51.9	9.2	100.0	29.1
4. Other	32.7	43.0	24.3	100.0	37.4
TOTAL (A+B+C)	26.0	31.0	43.0	100.0	

(Source: Sethuraman, 1981: 160)

Size Composition by Labour Force Structure

The sample of 500 units included employment of 252 family workers, 616 wage workers and 500 entrepreneurs, totalling 1,368 persons. While the average size of enterprises was 2.74 persons, 46% of the sample consisted on one-person enterprises (162). Table 19.2 below, presenting the distribution of enterprises and wage workers by size of enterprise, shows that the average enterprise was between one and three wage workers (163). As expected, 89% of total wage workers were employed by the 'larger' enterprises, with over 50,000 cruzeiros of capital (163). Relatively few females participated as wage employees, and a significant proportion of wage employees were under 18 years of age.

More than 3/4 of the units were headed by males with more than a half between the ages of 30 and 49 years. 22% of the informal sector heads of enterprises were natives of Campinas, the rest migrants who for the most part had lived in this city for over ten years (161).

Table 19.2

Distribution of enterprises and wage workers by size of enterprise

Size (number of wage workers per enterprise)	Sample units with wage workers		Distribution of wage workers (per cent)					
	No.	Per cent	Under 18 years of age		18+ years		Total	Column
			M	F	M	F		
1 to 3	112	61.2	24	8	59	9	100.0	30
4 to 6	42	23.0	25	8	59	8	100.0	32
7 to 10	29	58.8	23	3	62	12	100.0	38
All	183	100.0	24	6	60	10	100.0	100 (616)

Note: M - Males; F - Females; figure in parentheses refers to absolute number of workers.

(Source: Sethuraman 1981, 163)

Earnings

The majority of entrepreneurs (72%), as indicated in table 19.3 below, earned between 1,000 to 5,000 Cr $ (or US$93 to 464) per month. 90% of them, therefore, earned higher than the (1976) national level of GNP per capita income of 1,023 cruzeiros per month (or US$ 1,140) (162).

Table 19.3

Distribution of sample units by amount of capital and monthly income per unit
(per cent)

Amount of capital (Cr$'000)	Monthly income				
	Up to Cr$1 000	From 1 001 to 5 000	From 5 001 to 10 000	More than 10 000	Total
Stratum I (under 10)	(72) 29	(26) 68	(3) 2	(4) 1	(26) 100
Stratum II (10-50)	(14) 5	(27) 83	(22) 11	(4) 1	(31) 100
Stratum III (50+)	(14) 3	(37) 60	(75) 25	(92) 12	(43) 100
TOTAL	(100) 10	(100) 72	(100) 15	(100) 5	(100) 100

Note: Cr$10.77 = US$1, on the average in 1976.

Figures in parentheses are column percentages.

(Source: Sethuraman 1981, 162)

Linkages and Constraints

Particularly in the case of backward linkages, the study found 'a significant amount of integration of ... (raw materials purchasing) activities in Campinas with the rest of the economy' (164). 90% of manufacturing units acquired raw materials from a range of small, medium and large enterprises (in the ratio of 34:22:34), or only 10% from households as individuals. 99% of commercial units obtained merchandise from small and large units (31% solely from large, 29% solely from small and 39% from both).

As stated in the study:

> 'One of the interesting features of the above linkages is their variation with the size of enterprise. With regard to industrial units, only two-thirds of these in capital stratum I bought their inputs from enterprises, large or small, in contrast to 96 per cent in stratum III. Another interesting finding is that 44 per cent of those in stratum II relied on a single enterprise for their raw material needs ... in the case of trade enterprises, 52 per cent of those in capital stratum I (little capital) obtained their merchandise from a single enterprise, large or small) (164).

Other backward linkages included subcontracting relationships between small and large enterprises, the latter whom 'are known to prefer subcontracting to own account workers rather than hiring workers themselves in order to avoid expenses on their social security and the like foreseen in the labour legislation (163). Forward market linkages were directed towards households (83% of goods and services) while only 12% were directly exclusively to small or large enterprises. The market catchment area was confined largely to this city (90% of clients) (164).

Growth and Accumulation

The study used the age of enterprise, amount of improvements in enterprises and changes in the volume invested to measure and draw conclusions about the growth and expansion of enterprises. The facts that:

a) 'A greater proportion of those reporting improvement ... belonged to higher capital strata' and

b) 'Over two-thirds of those with substantial increases in income belonged to (highest capital) stratum III'... was said to suggest that ... ' enterprises with most capital tended to grow and reflect improvements in business' (165).

Conclusions

The study is important in its identification of the interrelationship between informal sector enterprises and other parts of the economy. It avoids any conclusive statement as to the subordination between large and small scale units which would require branch level information to fully address this question.

SALVADOR

'Employment, Production and Income Distribution in the Informal Urban Sector of the North East: The Case of Salvador, Bahia' by Clóvis Cavalcanti

1981 - Luso-Brazilian Review 18(1) pp. 139-153.

Introduction

This city level paper is concerned with the importance of the informal sector as a source of employment in metropolitan Salvador. The data describes the population working in the informal sector, the characteristics of the micro-units of production, and the forward linkages or consumer market for informal products. The study argues that the informal sector thrives in a situation where jobs are insufficient, income unequal and poverty still widespread.

Definition

Although the study does not give a clear cut definition, 'micro-units' of production (or what one may call 'small enterprises') comprising a maximum of 5 persons - generally 'rustic and family-centred' in the subsectors of commerce, transportation, services industry and construction (excluding agriculture as the study is confined to a quite urbanised area) seems to typify the informal sector. The sector is also defined in terms of income size - that is, low income, urban families where the highest average income roughly corresponds to 6 minimum wages (the minimum wage during the period of research being 869 cruzeiros or US$48 (153).

Sampling Base

A survey was carried out on 731 low-income domiciles (4,252 people) located in urban Salvador. As well as field research on 412 small size production units (with a maximum of 5 persons), the study drew on data from a city-wide survey of 594 households, in addition to informational surveys also on 244 institutional consumers (153).

Size and Labour Force Participation

The study estimated that a total number of 177,000 persons worked in the informal sector (151), 2/5 or 39.8% of the low-income labour force (140). As table 20.1 below shows, 37.6% of the low-income population of Salvador can be said to be informal workers: self-employed, unpaid family workers, street vendors and apprentices.

Table 20.1

SALVADOR: STRUCTURE OF EMPLOYMENT OF THE LOW INCOME POPULATION, BY SEX—APRIL, 1978 (PERCENTAGES)

Occupation	Sex		
	Male	Female	Total
Employer	1.0	0.4	0.8
Employee	54.2	36.4	47.7
Formal self-employed	1.7	1.6	1.7
Informal self-employed	26.3	52.1	35.7
Unpaid family worker	0.6	0.6	0.6
Street vendor	1.3	-	0.7
Apprentice	0.9	-	0.6
Public worker	7.0	4.5	6.1
Retired	7.1	4.5	6.1
Total	100.0	100.0	100.0

SOURCE: Research done by IJNPS.

(Source: Cavalcanti, 1981, 141)

The average size of the enterprise is 2.1 persons per micro-unit, while in general terms, 'the absorption of manpower rarely surpasses four permanent employees per unit'. Temporary labour is the exception, as 'less than one-tenth of the units of the commercial subsector employ temporary workers'. (144). Family labour comprises by comparison 2/3 of the labour force (144).

In terms of age composition, relatively fewer young people were found in the informal sector since the median age in 1970 was given as 37-39 years for the entire Bahian labour force (141).

As seen in table 20.1, females comprised 52.1% of the self-employed informal workers, while in overall terms 'Women make up 51.2 per cent of the informal sector labour force in Salvador' (140).

Capital/Capital-Labour Ratios

In terms of capital assets, the study found that of its sampled population, most micro-units consumed in 1978 a total of less than 50,000 cruzeiros (US$ 2,800) in fixed capital (including equipment and buildings) (145), 72% of those in commerce, 50% in industries and 69% in transportation (145), which 'suggests the ease of entry of modest entrepreneurs into these activities' (145).

The average value of capital per worker (for all subsectors) was 26.3 thousand cruzeiros (US$ 1,500) ... 'in sharp contrast to the capital/labour quotient found in industrial projects which receive benefits from the incentive mechanism of SUDENE. With informal industries investment per worker about 51,000 cruzeiros, one can correctly conclude that the financing for the installation of productive micro-units is an inexpensive and accessible way to create new work opportunities' (145).

Enterprise Earnings

Profits in the informal sector are small:'with the exception of the micro-industries, 80 percent of the informal units show a gross weekly receipt below five thousand cruzeiros (277 dollars) or less than 250 thousand cruzeiros (14 thousand dollars) per year'. Meanwhile, 'The situation of the small secondary producers is not much different since half of them take in less than five thousand cruzeiros per week' (145). The 'average monthly profit' levels registered for entrepreneurs in all (5) subsectors were put at 4,178 cruzeiros or 231 dollars , and estimated to the 4-8 times the minimum wage and '1-8 times the average earnings of the low income male worker researched (2,353 cruzeiros)' (145). Micro-industries, however, achieve higher profit levels 'generating 7,285 cruzeiros monthly per entrepreneur, which is 8.4 times the minimum wage and 74 percentage points above the average monthly profit for all micro-entrepreneurs' (145-6).

Wage Earnings

No precise estimates of wage levels for informal sector workers were available. The average family income of the surveyed sample was 3,852 cruzeiros (213 dollars) (April 1978 prices)(142).

With the estimation that '34.2 percent of the population surveyed earned two minimum wages or less', the study concluded 'that an impressive proportion of those in the informal sector are quite poor'(142).

Linkages

In terms of backward input supplies, the study finds that 46.6% of the informal sector micro-firms obtain supplies from one supplier (compared to 36.9% of the formal micro-units)(146). However, within the informal sector, commerce for example, is more dependent on informal rather than formal suppliers (146). Equally, 'the principal source of financing of informal micro-firms is through individual savings (more than 70 per cent in all cases)' (145).

With the exception of construction and transportation sectors, which both have enterprise clients (50% and 24.3% respectively), most informal sector production is geared towards consumers (comprising 89.3% of the clientele)(146). 'Institutional' demand for informal sector goods and services from other enterprises is therefore limited to 10.7% (142).

The market potential for the informal sector consumer market is shown in appendix 37. The study states that 'The average propensity to consume informal items ... is higher (7.3 percent) in the highest income bracket than its overall mean for Salvador (6.6 percent)' (148). The annual (local domestic) expenditure as informal sector items comes to 5,147 million cruzeiros or 105 million dollars for services (148).

The study found that:

> 'Based on the survey of micro-units of production, we find consumers from various social classes making up the informal consumption market with the poor clients most prevalent only among the commerce micro-units (69 percent of the cases), which seem not to service rich clients, (146)

Conclusions

As elsewhere, the informal sector in Salvador is seen to provide a means of livelihood for part of the low-income population. Within this sector, differentials existed between male and female earners as between entrepreneurs and workers, while 'micro-unit'(industries) enterprises were to provide more earnings possibilities than others.

COLOMBIA: BOGOTA

'Bogotá : Urban Development and Unemployment' by Harold Lubell and Douglas McCallum. (Geneva, ILO: 1978)

Introduction

The central focus of this city level study is an examination of the informal sector construction industry in the economic development process, particularly in terms of its ability to simultaneously absorb labour and generate economic growth.

Definition

The Bogota study implicitly used the 'individual' as a means of informal sector identification but also drew on the ILO characteristics of family ownership and size of enterprise. The resulting range of informal sector enterprises covered:

'a) production units consisting of a single individual without a fixed place of work and predominantly in petty trade and personal services;

b) family production units, small units which are primarily family enterprises including cantines, shops, *tejo* courts, etc.'(88).

Sampling Base and Measurement

The sampling base for the study drew on 'a large and carefully structured sample survey' of households undertaken in the summer of 1972 (126). These households were selected from a range of low and middle barrios or neighbourhoods, meaning that the overall sample base for the study did not specifically focus on a 'working poor' population. Other data sources included official census reports from the *Departamento Administration Nacional de Estadisticas (DANE)*: *XII censo nacional de poblacion 1951*; *XIII censo nacional de poblacion 1964* and a large variety of non-census sources for more recent population estimates, to avoid the inaccuracies of the 1973 national population census.

Size and Sectoral Composition

A distribution of working members of informal sector households is given in table 21.1 below, by type of production unit and by branch activity. Overall, 15% of the working population were self-employed, 28% working in family production units, 32% in small and medium size units employing wage workers, as compared to 25% in the more organised and larger units (88). As shown here, 40% of the self-employed category were in commerce (petty trade) and 32% in personal services. Workers in family production units were concentrated in manufacturing and trade (38% and 34% respectively), while those in small and medium size units were mostly in manufacturing (31%) and personal services (30%) (90).

Appendix 38 gives the distribution of workers by type of production unit and occupation. Thirty six per cent of the self-employed single worker units were owners, 36% artisans and operators and 14% personal service workers (90). 35% of those in family production units were artisans, 18% owner vendors, and 12% managers and administrators. Survey data derived from preliminary tabulations of the 1970 economic census identified the 3 sectors of informal sector employment as retail trade, restaurants and hotels, repairs and personal services, and areas of the service category. As indicated in appendix 39, the retail trade with 29,685 establishments is the most important, with a nearly balanced proportion of males and females (55.5% men and 45.5% women).

Table 21.1

Distribution of workers by type of production unit and branch of activity, Bogotá, 1974

(per cent)

Branch of activity / Type of production unit[1]	Self employed	Family units	Small and medium units	Larger units	Total (%)	Total (number)[a]
Agriculture and extrative industries	1.3	2.6	-	-	0.9	(5.470)
Manufacturing	13.9	37.8	31.3	40.7	33.0	(200.564)
Commerce	39.9	34.3	17.8	4.8	22.9	(139.180)
Banking and finance	-	0.8	3.6	9.5	3.7	(22.487)
Transport, storage and communications	12.6	2.7	9.5	9.4	8.1	(49.230)
Public and government services	-	3.7	6.8	22.2	8.5	(51.660)
Personal services	32.3	17.4	29.5	10.7	21.8	(132.495)
Unspecified	-	0.7	1.5	2.7	1.1	(6.686)
Total (%)	100.0	100.0	100.0	100.0	100.0	
Total (number)[a]	(91.474)	(172.535)	(191.038)	(152.725)		(607.772)
Total (%)	(15.1)	(28.4)	(31.4)	(25.1)		(100.0)

[1] See text for description of types of production units.

[a] Inflated to estimated Bogotá total.

Source: OFISEL household survey, Bogotá, 1974, as quoted in OFISEL: *El sector informal en la economía urbana de Bogotá*, WEP Research Working Paper WEP 2-19/WP 25 (Geneva, Aug. 1977), table 5.1.

(Source: Lubell and McCallum, 1978: 89)

Output/Productivity

The branch data on the manufacturing sector classified in table 21.2 shows, for example, value added per worker per enterprise in small firms in the textiles branch was 3,864 pesos, as compared to 13,572 pesos on average for all firms in this branch. Small firms wages in this branch were also lower, amounting to 1,789 pesos as compared to the average of 4,118 pesos for all firms.

Table 21.2

Value added, wages and labour force by industry sub-branch, all firms and firms with 1-9 workers, Colombia, 1958 (pesos)

Industry sub-branch	Value added per worker: Average (all firms)	Value added per worker: Firms with 1-9 workers	Wages: Average (all firms)	Wages: Firms with 1-9 workers	Labour force: firms with 1-9 workers as % of total
Food	14 000	7 031	3 193	1 957	23.8
Beverages	35 790	9 025	5 627	2 561	3.5
Tobacco	49 356	2 870	3 791	938	15.8
Textiles	13 572	3 864	4 118	1 789	2.6
Clothing and footwear	5 699	4 140	2 433	2 000	23.2
Lumber	5 962	5 713	2 792	2 589	30.1
Furniture	6 141	5 396	3 297	3 704	28.4
Paper and paper products	13 510	8 487	4 452	2 908	3.1
Printing	9 681	5 996	4 247	2 730	13.3
Chemicals	20 583	12 855	4 710	2 906	8.6
Petroleum	45 388	27 331	12 288	2 889	0.5
Rubber products	15 076	7 224	4 993	2 707	1.7
Leather and leather products	9 515	5 782	3 436	2 128	15.8
Non-metallic minerals	8 804	3 988	3 266	1 992	14.2
Basic metals	13 207	7 086	5 431	3 118	2.4
Metal products	8 998	5 644	3 605	2 613	12.2
Machinery, excluding electrical	8 087	5 741	3 895	3 213	18.5
Electrical machinery	13 517	6 520	3 994	2 947	10.4
Transportation equipment	6 548	5 147	4 500	2 791	15.8
Other	11 640	7 259	4 180	3 529	9.7
Total industry	xx	xx	xx	xx	13.8

Source: DANE, as quoted in Richard R. Nelson, T. Paul Schulz and Robert L. Slighton: Structural change in a developing economy: Colombia's problems and prospects (Princeton, Princeton Univ. Press for the RAND Corporation, 1971), pp. 117, 119, 124.

(Source: Lubell and McCallum, 1978:95)

Linkages

The study states that:

> 'Beyond offering employment to those who are unable to find jobs in the formal sector, the informal sector plays an important productive role in the urban economy, both independently and through formal/informal sector links ... such links are likely to become formalised as the demands for better services increase in step with the progressive development of the urban economy' (105).

An example quoted was service sector links to the formal sector through installation, repair and maintenance of manufacured products by self-employed/ small scale enterprises. Informal sector enterprises in Bogota produce goods and services mostly for final customers, as well as intermediate goods such as parts and components and investment goods (particularly housing), and is therefore characterised by a range of links with the formal sector (87). Data on the spatial distribution of enterprises also provide some indication of the remunerative potential of small firms' markets. Small firms are more widely scattered over the Bogota area, and crucially provide a higher proportion of provision in the outer areas (87.9% of the outer and periphery areas) pointing to thier ability to serve 'marginalised' portions of the population (102).

> 'One aspect of the increasing complex of operations with size is the fact that in goods production, the majority of single individual units and of family units produce a complete product, while the great majority of small and medium size units and medium size units and of the large units produce parts of a product or several products' (90).

The study reported conflicting information as to the complementarity and competitiveness between the handicraft and factory branches, while:

> 'Urrutia and Sandonal argue that up to a certain point handicraft activities and factory activity are complementary rather than competitive, if only through the rapid generation of incomes among factory workers' (94).

A Rand Corporation study, using a different definition of crafts enterprises (1-9 workers), stated that the coexistence of small 'modern' firms (of post World War II origin), with traditional firms with lower technology and output is based on variation in product market. The relationship between the formal and informal sector as described between small 'modern' and traditional firms was complementary in so far as they operate in different product markets; at the same time, the relationship is competitive in small product lines (eg shoes, furniture) (94).

In the construction sector, the study identified the building materials and building construction industry. Within the building materials sector, it identified informal sector production of brick chircales (clay products manufacturing), which was small scale, utilising low levels of technology, labour intensive or animal powered production techniques, and produced bricks for low-income housing markets.

Concluding Remarks

The informal sector data available in the Bogota study suffers from problems of classification. The study does, however, provide valuable qualitative information as to the workings of informal sector building materials branch industry, including the generation of incomes and employment in the sector.

ARGENTINA: CORDOBA

'The Informal and Quasi-formal Sectors in Cordoba' by Carlos E Sanchez, Horacio Palmeiro and Fernando Ferrero, in "The Urban Informal Sector in Developing Countries, ed S V Sethuraman, (Geneva, ILO: 1981)

Introduction

The Cordoba city level study examines the 'unorganised' private sector in the economic context of formal sector employment growth in the manufacturing and public service sectors. This is set against a declining population growth (down from 3.2% between 1947-70 to 2.8% between 1970-76), yet increasing unemployment rate in the city, put at 6% in recent years (144).

Definition

The study distinguishes between the quasi-formal and formal sectors, in terms of high and low income or remunerative capacity of activities, with the 'unorganised' private sector, composed of enterprises with less than 5 workers. The income distinction was based on 'those earning a high income either because of advanced skills, or because of high capital intensity or because of oligopolistic market environment ... belonging to the "quasi-formal" sector.' The informal sector was therefore 'defined to include enterprises in the lower end of the spectrum characterised by free entry, very little capital and skills, very small-scale, job and income uncertainty, etc' (145).

The quasi-informal sector, on the other hand, included 'self-employed professionals such as doctors, lawyers; small engineering units and manufacturing activities with significant amounts of skills and investment; self-employed construction workers including plumbers and electricians; and commercial activities with a substantial capital input' (144-145). With the exception of some categories of quasi-informal employment, both the informal and quasi-formal sectors as defined here correspond to what is otherwise referred to as the informal sector. For this reason it is necessary to deal comparatively with both sectors.

Sampling Base and Measurement

The sampling base of all enterprises with under 5 persons was devised to span the range of enterprises in fixed locations and households with self-employed in variable locations. The sample population was selected by means of a stratified random sampling procedure (27).

Size/Sectoral Composition

The study estimated the combined quasi-formal and informal sector labour force at 138,000 persons or 37.6% of the active labour force with 84,000 and 54,000 respectively in each of the above sectors (145). The distribution of the enterprise heads in both these sectors by occupation (appendix 40) shows that 'while it is true that a greater proportion of those in the quasi-formal sector are engaged as production, transport and construction workers, the evidence also suggests that the distinction between informal and quasi-formal sector(s) cannot rest on occupational classifications, with the possible exception of 'maids and domestic servants' who appear exclusively under the informal sector' (147).

The sectoral distribution of informal and quasi-formal enterprise units in table 22.1 below, shows that 90% of informal sector activity is found in personal services, trade and manufacturing (149). Trade and restaurants account for a substantial 40.1% of all units in the quasi-formal sector. Elsewhere, the study shows that 91% of the sampled enterprises employing wage workers are engaged in trade and services (150). The majority of those workers engaged in manufacturing (10%) meanwhile, belonged to the quasi-formal sector (150).

Table 22.1

Distribution of informal and quasi-formal units by activity

	Informal sector	Quasi-formal sector	Total
Agriculture and related	12 (1.1)	5 (0.4)	17 (0.7)
Manufacturing	171 (15.3)	189 (15.4)	360 (15.4)
(Textile and related)	153 (13.7)	61 (5.0)	214 (9.1)
Construction	83 (7.4)	208 (16.9)	291 (12.4)
Trade and restaurants	219 (19.6)	492 (40.1)	711 (30.3)
Transport, storage and communication	11 (1.0)	73 (5.9)	84 (3.6)
Services	620 (55.6)	261 (21.2)	881 (37.6)
(Personal services)	605 (54.2)	195 (15.9)	800 (34.1)
Total	1 116 (100.0)	1 228 (100.0)	2 344 (100.0)

Note: Figures in parentheses are percentages.

(Source: Sethuraman 1981: 149)

Labour Structure

About 3/4 of all sampled enterprises (in both quasi-formal and informal sectors) were own-account workers operating 'without any fixed location' (150). In terms of the sexual division of labour, 63% of female workers were engaged in 'informal' activities, as against 23% in quasi-formal activities (145). Since 'women's participation is about the same both as heads of enterprises and as (paid or unpaid) workers ... the distribution of women in these (low-income informal) activities between 'heads' and 'workers' is comparable to that of men' (145). The labour force in both informal and quasi-formal is fairly 'youthful', since roughly one-third of the participants in each of these sectors are under 30 (145).

The study provided evidence of the potential mobility between informal and quasi-formal sectors, stating:

> 'the proportion (of migrants) participating in the latter (quasi-formal sector) increases steadily with the duration of stay in Cordoba ...also suggest(ing) some mobility from low-income to higher income activities' (147).

Earnings

The data presented in table 22.2 below indicates that a large percentage of the informal sector heads of enterprises earned less than 80,000 pesos per month. A good number of quasi-formal heads also belong to this low income category. Appendix 41 shows that there are significant income differentials between males and females.

Table 22.2

Distribution of heads of enterprises by income level and skills (per cent)

	Income (hundreds of pesos per month)			
	Low under 800	Medium 801-4 000	High 4 000+	Total
Own-account workers without fixed location (1 760)				
Informal (896)	92.5	7.0	0.5	100.0
Quasi-formal (664)	24.1	55.1	20.8	100.0
Both (1 760)	58.9	30.6	10.5	100.0
skilled (891)	41.4	45.8	12.8	100.0
unskilled (869)	76.9	15.1	8.0	100.0
Heads of enterprises with fixed location (640)				
Informal (206)	100.0	-	-	100.0
Quasi-formal (434)	-	69.8	30.2	100.0
Both	32.2	47.3	20.5	100.0
skilled (453)	21.8	49.5	28.7	100.0
unskilled (187)	57.2	42.2	0.6	100.0
All enterprises (2 400)	51.8	35.1	13.1	100.0
Informal (1 102)	93.9	5.7	0.4	100.0
Quasi-formal (1 298)	16.0	60.0	24.0	100.0

(Source: Sethuraman 1981: 153)

According to the study, 'These findings suggest that a majority of heads of these two (quasi-formal and informal) sectors combined, perhaps over two-thirds receive an income below the national per capita level, which is estimated to have been around US$ 1,640 in 1973 (ie, US$ 137 or 1,540 hundred pesos per month) ...' (152).

Linkages

Households and individuals formed the major portion of the clientele for both quasi-formal (82%) and informal sectors (72%) enterprises, while 13% and 16% respectively relied on intermediaries (154). The age structure of sampled enterprises ('own-account workers without fixed location' and 'establishments in fixed locations') (see appendix 42) suggests a 'gross (growth) rate of perhaps 6-5 percent per year' with a significantly higher rate of growth in own-account enterprises without fixed locations than in establishments in fixed locations.

> 'The most obvious explanation for this phenomenon seems to be that there are fewer constraints if any to entry in the former category'... 'trade and "other" activities seem to be growing faster in both types of enterprises ... impl(ying) difficulties in access to business premises in choice locations closer to markets or central parts of

> the city. In other words, access to markets could be an important consideration in opting for variable locations' (155)

Of the 80% of informal sector sample participants interested in expanding enterprises, 100% cited the absence of reasonable rates of interest on credit as a constraint upon expansion; 93% and 40% cited the 'lack of suitable premises' and 'lack of demand' respectively (156). (Corresponding figures for these explanatory variables in the quasi-formal sector are48%, 18% and 70%) (156).

> '71 per cent of those in the informal sector did not believe they can get bank credit (compared to only 14 per cent in the other case) because they lacked the collateral necessary and because of the absence of favourable government policies' (156).

Conclusions

The study identified the informal sector as an unproductive sector, functioning as a stopgap for workers awaiting entry into the 'quasi-formal' sector. In these terms, then, occupational mobility from different sectors of the labour market (informal 'unorganised', 'quasi-formal' unorganised, public sector and private organised sectors), are described in terms of a number of stages. The study provides little, however, to amplify further these distinctions within the informal sector.

FOOTNOTES

1. See Moser (1978, 1983) for extensive accounts of the historical background to the informal sector, the informal sector debate and methodological problems in research on the informal sector.

2. Where this occurs, the information is in fact more pertinent to part three of this review. Since it is not possible to divide all the studies into two discrete categories there are consequently some which overlap, providing information relevant to both. For instance Steel (1977) and Anderson (1981) in their respective country level studies of Ghana and the Philippines focus on the manufacturing sector, as does Aryee (1983) in his city level study of Kumasi. Other city level studies with a specific focus include Chana and Morrison's (1975) examination of the manufacturing sector of Nairobi.

3. See appendix 1 for brief mention of other early definitions by Hart (1973), Mazumdar (1976) and Weeks (1975).

4. See Moser (1978) for a detailed review of these and other city level studies.

5. See appendix 2 for complete list of suggested criteria.

6. As noted in the study, the branch data for both Abidjan and Bouake understate informal sector employment in trade: the Abidjan study by excluding market women (tabliers) and the Bouake survey by excluding rickshaw men due to the part-time status of employment. For at least Abidjan, the exclusion is significant since complementary data on the contribution of retail trade in Abidjan (from Etude socio-economique d'Abidjan, Report No 17 Synthese, pp42-43) estimates the 1963 total of persons engaged in 'traditional' trade at 12,000. By virtue of excluding this category, the study also understates the participation of some 4,000 plus of this category (for just retail, cooked food and beverages and non-retail trade activities). Another survey quoted in the study (1970) of the Adjami district of Abidjan found that small tradesmen with annual incomes below Fr CFA 50,000 represented 34.4% of the working population. (From Ministère de la Santé Publique et de la Population, Institut National de Sante Publique: Enquète socio-sanitaire sur un quartier d'Adjame, by Maryse Duponchel (Abidjan 1971) pp 124-125).

7. In relation to this the study does however note that:

> '... these figures call for two comments. First, real incomes are often higher than the averages estimated above ... The second point is that such supplementary incomes obviously enable the families concerned to increase their total income and attain a higher standard of living' (58).

8. Table 4.3 was complied by the author from the foregoing 3 tables (appendix 12, 13, 14); non-agricultural employment from Ghana, the 1970 Population Census II; growth rates based on the 1960 Population Census II. Appendix 15 was similarly compiled from all of the above sources in addition to total population figures from the 1970 Population Census.

9. The study used as indicators of success: the level of entrepreneurs' income, his consumption on a monthly basis, and number of people employed (8).

10. Calculated from data (see p.7).

11. This review of the Kano study also draws on the WEP working paper on which this study was based: 'Absorption of Migrants into Kano City, Nigeria' by A L Mabogunje and M O Filani, WEP Working Paper No 29 (Geneva, ILO: 1977).

12. The actual number of enterprises was 6,574, constituting 98.6% of all enterprises as quoted in the Kano working paper, op cit p128.

13. The database for the above estimates derived from approximations of the value of capital equipment owned. In this respect, the data was impacted by the fact that 80% of the sample owned capital equipment (defined as machines, tools, furniture, fixtures and vehicles) as compared to 20% of enterprises not owning such equipment.

14. This article is based on two studies: E Demol, Analyse des Resultats du recensement du secteur non structuré de la ville de Yaounde (Republique-Unie du Cameroun) (Geneva: ILO, 1978) and G Nihan and E Demol with A Tabi Abodo: Le Secteur nonstructuré 'moderne' du Yaounde (République du Cameroun) Rapport d'enquête et analyse des resultats (Geneva ILO: 1980).

15. See Thomas W Merrick's study, Informal Sector employment in Brazil: a case study for Belo Horizonte (Belo Horizonte CEDEPLAR, 1974; mimeographed). As described in the Sao Paolo study (67), Merrick uses non-government regulation as the primary focus of its definition. Calculated as a residual, the informal sector was said to include all those workers not contributing to social security institutes in addition to domestic workers.

16. The minimum wage at the time was Cr $200 per month.

17. Estimates from São Paolo state were used for corroboration of these figures. (Sao Paolo case study, 74).

PART THREE

INTRODUCTION

Part Three provides a survey of recent empirical studies within the industrial and manufacturing sector of the informal sector. In contrast to the ILO city studies, these productive unit and branch specific studies have been based on a broadly similar 'anti-dualist' framework, and sought specifically to 'determine the character of the relationships between forms of production and the processes of reproduction of the different forms of production themselves' (Harriss 1982, 947). In order to understand the internal and external constraints on the growth of small scale enterprises, not only must the small producer's problems be understood from his perspective but, also, on such aspects as the raw material supplies, the nature of the product market and government regulations.

> 'Data from the small producers themselves is necessary but rarely sufficient. Additional information is needed from technology suppliers (producers of new machinery, dealers in second-hand machinery, repair shops), firms which supply the raw materials (producers of these materials or intermediaries), large firms which compete with or subcontract small firms, and so on.' (Schmitz 1982, 443)

Although the scope of these studies varies considerably and includes the use of a diversity of secondary sources materials (such as census data, sample surveys and other appropriate information), the one common component in many is detailed empirical fieldwork of a non-questionnaire type. It is no coincidence that many of the earlier studies of 'petty commodity producer' units were undertaken by anthropologists. Working within a discipline which has always recognised the limitations of survey questionnaires, as the only methodological tool, in areas of hostility, sensitivity or simply enormous complexity anthropological techniques are intended to provide a critical level of understanding at all levels, in this case from 'informants on what's going on in the industry'.

The Petty Commodity Production Debate

While the ILO Kenya Report identified the informal sector as independent and capable of growth, critics of this position argue that in reality the level of capital accumulation possible is frequently constrained by structural factors in the total socio-economic system such that small scale enterprises tend to participate in economic growth in a subordinate way, i.e. they are not independent but dependent, and the linkages between small scale and large scale are not benign but exploitative. It is important to establish therefore the extent to which seemingly independent enterprises in reality operate within a complex system of dependent relationships, and are subordinate to the needs of large scale capital.

Dissatisfaction with the ability of *a priori* dualist models such as the informal/formal model has resulted in the utilisation of an alternative framework which emphasises a continuum of productive activities. Based on an elaboration of Marx's theory of different modes of production and their mutual articulation, this is seen to contain a theoretical apparatus for explaining the internal dynamics of a particular form of production, the conditions necessary for its existence and the contradictions which lead to its eventual elimination, including both the social and the technical relations of production. The vast majority of small scale enterprises of the type identified as in the informal sector fit into the category of 'petty commodity production', a form of production which exists at the margins of the capitalist mode of production but nevertheless is integrated and subordinate to it.

Petty commodity production, in conceptualising economic activities in terms of a continuum of productive activities, places the essential area of analysis in the identification of complex linkages and dependent relationships between and within production and distribution systems, and hence the potential for evolutionary as against involutionary growth within the productive sector. It attempts to identify the difference between illusory self-employment and disguised wage employment, and the complexities of linkages between the small scale enterprise and the 'capitalist sector'.

In the examination of linkages a clear distinction can be made between those of an internal nature (entrepreneurship, management) and those of an external nature (access to resources, exploitation by larger enterprises). Schmitz (1982), in his examination of these constraints, questions the extent to which internal factors such as lack of motivation/drive/adaptability, organisational or technical skills constrain enterprises. The inventiveness and responsiveness of small scale enterprises is well known. Limits on advance planning can equally be seen as the result of the markets in which they operate or shortages of resources. Schmitz argues that factors internal to the enterprise are as much a source of strength as of weakness, while on the question of skills he suggests that thorough knowledge of the production process tends to be the small producer's strong point, with learning-by-doing an integral part of the small producer's struggle for survival or expansion.

Schmitz, in examining the constraints on growth among small scale enterprises, identifies a number of factors. Firstly, the question of exploitation and the low level of remuneration of petty producers - either forced on them by the greater efficiency of expanding capitalist production or a consequence of extreme competition amongst petty producers forcing them to use unpaid family labour or underpaid wage labour.

The second external constraint identified is subcontracting, with the need to establish the extent to which small producers are independent or simply an extension of the production network of large firms, working as disguised wage labour.

The third constraint, access to markets, is again an area where empirical reality does not always coincide with the perceived wisdom, with the blockage thought to lie in the pre-existence of very advanced technologies and in the control which large firms exercise over product markets, raw materials and credit. Empirical evidence shows that improving communications does give distributional advantages to branded standardised products of large firms, especially through advertising, but there are regional and sectoral exceptions which are important to recognise.

In the case of the fourth constraint, technological gap, the importance of physical distance between small producers and suppliers of technology is identified as the reason that producers are confronted with the technological gap in some branches and places more than others, with the successful use of second-hand equipment dependent on local availability of machines, spare parts and repair services. Fifthly, access to raw material is stressed as a critical constraint on the growth of small scale enterprises because of the bargaining difficulties of small producers, their lack of working capital, and also government's discrimination against small firms in the allocation of raw materials. Easier access to credit, the sixth constraint, is most commonly suggested by policy makers. The final constraint, government discrimination, requires the examination of the growth potential of the small producer in a more political context, which raises deeper questions about the political structure of the country.

Structure of the Review

This survey covers a number of different activities within the industrial and manufacturing sector, with the selection determined by the studies available. These are presented alphabetically by sector and include bakery, construction, metalwork and engineering, shoes, soap, textiles and finally cross-sectional studies. Within each sector, studies are presented alphabetically by author. Where two case studies are included in a study they are examined in one review with cross-references made to the relevant sections.

In order to provide consistency and systematisation in the presentation of data the studies are all reviewed in terms of the following characteristics:

1. Title, author and date of publication;
2. Definition of the informal sector utilised;
3. Sampling base and measurement;
4. Description of the system of production within the branch (distribution of labour in branch, relative size of labour force in branch productive units; distribution of productive enterprises, etc.);
5. Comparisons between large and small scale;
6. Relations of production including enterprise characteristics; such as size of enterprise, capital-labour productivity measures, capital-output, capital-labour ratios, labour productivity measures, cost efficiency of firms, rates of return to enterprise or estimates of profitability, earnings characteristics and comparative intra-branch characteristics as above;
8. Identification of the overall structure of production (including the nature of linkages between large and small, formal/informal units);
9. Conclusions.

Obviously, as in Section One, there are considerable differences in the range of data collected, and many studies fail to provide information on numerous characteristics listed, or are highly descriptive in content. Equally, it should be noted that not all of the studies refer specifically to petty commodity production, distinguishing between small and large in terms of such criteria as levels of efficiency or technological inputs.

However, presentation in this format is intended to allow, where possible, for comparative conclusions.

SECTION ONE

BAKERY

Only one case study of the bakery industry is reviewed here.

(A) Appropriate technology in a developing country: The bakery industry in Kenya by R.M. Kaplinsky. Doctor of Philosophy thesis, University of Sussex, 1981.

Introduction

Kaplinsky, in his case study of the bakery industry in Kenya, shows how relatively more efficient small scale bakeries are overshadowed by inefficient large scale bakeries, the latter ensuring their domination of the market through a combination of marketing and pricing strategies and relative large scale policy bias. The study further looks at optimal bakery techniques with respect to technology, size and the location of bakeries.

Definition

This thesis compares small and large scale production but excludes 'unregistered' informal sector production units from the sample. Bakeries, therefore, are classified according to a six-way classification at full capacity utilisation - "bakeries capable of using up to 2,500 bags of flour per year, those using between 2,500 and 10,000, between 10,000 and 20,000, between 20,000 and 50,000, between 50,000 and 100,000, and over 100,000 bags of flour per year" (p.232).

Sampling Base and Measurement

The study was based on information from 41 of the 46 bakery enterprises registered with the Bureau of Statistics. In addition, an open-ended questionnaire survey was undertaken in 1976 of 74 bakeries in Kenya (pp. 23, 25). Although the sampled units accounted for 95% of bakery total output in Kenya it was biased against very small, unregistered bakeries and rural bakeries using brick ovens.

Description of the System of Production in Branch

Size

The author estimated the size of the bakery industry, in terms of the number of total establishments, at 90 to 100 bakeries (p. 68). Assuming a rate of growth of consumption at 6% per annum, Table 1.1 below gives projections up to 1985 of the employment effects under the existing market share as well as under a "more appropriate set of market shares". The left hand column, which gives projections under an unchanged market share, shows that the total estimated employment would reach 3,346 in 1985 (p. 190). Urban bakeries produce almost twice the employment effects of rural bakeries. Examination of the employment share of different bakery technologies shows the estimated share of brick ovens to be around 5%, with the remainder in the more capital intensive tube and tunnel ovens.

Output

One urban-based firm, Elliots, controls two thirds of the output, with rural bakeries producing only 10% of production, bakeries using ovens 2%, and small bakeries a negligible fraction (p. 191).

Table 1.1

Employment creating effects of more appropriate structure of bakery industry[a]

	1983: projection of existing structure.			1983: more appropriate structure*.			
	market share (%)	total employment	increased employment over 1976	market share	total employment	increased employment over 1976	nett gain (6 - 3)
	(1)	(2)	(3)	(4)	(5)	(6)	
Environment							
urban	23.4	1,080	441	13.7	639	0	-441
rural	16.3	376	235	47.1	3,473	3,132	2,897
Size (bags p a)							
0-2,500	1.3	130	53	21.3	2,008	1,931	1,878
2,500-10,000	6.	482	201	25.4	1,492	1,201	1,000
10,000-20,000	10	339	229	6.1	331	0	-229
20,000-50,000	9.2	404	165	5.7	239	0	-165
50,000-100,000	7.2	71	29	4.5	42	0	-29
Over 100,000	60.6	1,690	690	37.2	1,000	0	-690
Technology							
brick	2.1	166	76	42.1	3,222	3,132	3,056
tube	26.4	1,447	599	16.2	848	0	-599
tunnel	67.7	1,733	691	41.7	1,042	0	-691
Total	100	3,346	1,366	100	5,112	3,132	1,766

a. Assuming market growth @ 6% p a; all bakeries continue operation; no deliveries between rural and urban areas; rural demand is 33% of total demand; increased demand met by bakeries using brick ovens, half of whom produce at under 2,500 bags p.a. and the other half at between 2,500 and 10,000 bags per annum.

Excludes bakeries outside sample who are estimated to account for about 4% of 1976 output.

(Source: Kaplinsky 1981, 189)

Capital and Capital Productivity

Neither small nor large bakeries exclusively use capital- or labour-intensive methods of production. Technological distinctions between bakeries are made nevertheless according to the types of ovens used, brick ovens being considered less modern than the tube or tunnel ovens used by the more modern (large) bakeries (p. 29).

As seen in Table 1.2, 'there is little difference in investment costs per workplace between urban and rural bakeries. However bakeries using tube ovens have significantly higher costs per workplace than their brick-using counterparts' (pp. 89-90).

Table I:2 Unit Investment Costs and Capacity Utilization

Category of bakery	Unmodified unit investment costs (/-)	Capacity utilisation (%)	Unit investment costs modified by capacity utilisation (/-)				
	Average		Average	Std. Dev.	N	t	Sig
Location							
rural	2.57	51	5.03	5.5	20	(1.16)	NS
urban	3.78	57	6.64	3.4	28		
Size (bags p a)							
0 - 2,500	2.83	39	7.26	7.3	12	(1.61)	NS
2,500 - 10,000	3.31	56	5.91	3.4	21	.38	
10,000 - 20,000	3.60	66	5.45	2.5	10		
20,000 - 50,000	2.51	76	3.20	.6	4		
50,000 - 100,000	6.29	83	7.58	-	1		
Over 100,000	3.30	76	4.34	-	3		
Technology							
Brick	2.48	39	6.37	7.1	13	.30	NS
Tube	3.40	59	5.77	3.0	34		
Tunnel	4.23	78	5.42	1.9	3		

NS Not significant, t test conducted on samples over eight.

(Source: Kaplinsky 1981, 114)

Capacity Utilisation

Relating capacity utilisation to the level of investment costs facing various bakeries in rural and urban areas and with different technologies, Table 1.2 shows the relatively lower level of capacity utilisation in smaller, rural bakeries.[1]

Returns

Using the internal rate of return as a measure of marginal rates of return, Table 1.3 shows that the margin of profit (per bag) of bakeries using brick ovens are only slightly lower than those using tube ovens (p.144).[2] When transport costs are included, however, internal rates of return fall unevenly and disadvantage larger, rural bakeries and those equipped with tunnel and tube ovens (p. 158).

Table 1.3

Comparison of Estimated IRRs for "full"(a) and incomplete samples of bakeries.

	Incomplete Sample[1]	**"Full" Sample(a)**
Location		
rural	**171.5**	**276.3**
urban	**94.4**	**94.4**
Size (bags p a)		
0-2,500	**230.3**	**372.7**
2,500-10,000	**82.8**	**120.6**
10,000-20,000	**130.6**	**130.6**
20,000-50,000	**164.5**	**164.5**
50,000-100,000	**74**	**74**
Over 100,000	**133**	**133**
Technology		
brick	**110.4**	**317.3**
tube	**131.1**	**131.1**
tunnel	**103.5**	**103.5**

(a) Assuming IRRs of 800% for the three relevant bakeries.

(Source: Kaplinsky 1981, 153)

1 The incomplete sample drew on a limited sample size due to imperfections in the data and the high level of internal rates of return (over 1,500%) in 3 cases (p. 151).

Costs of Production

Table 1.4 shows that rural bakeries and bakeries with brick ovens have lower average distribution (transport costs) and lower fixed machinery costs than those of urban bakeries. Similarly, lower technology bakeries with brick ovens have lower distributional costs than those faced by large scale producers (e.g. Seiffees).

Table 1.4

Comparison of fixed machinery and transport costs[a]

	Average Fixed Transport costs.			Average Fixed Machinery costs		Ratio of transport to machinery costs
	Sh	N		Sh	N	
Location						
rural	57,329	25		227,825	21	.25
urban	120,032	31	incl.Seiffees	425,258	27	.28
			excl.Seiffees	260,250	26	.46
Size(bags p a)						
Size 1	17,467	18		92,377	12	.19
2	66,286	23		185,158	21	.36
3	152,279	10		381,988	10	.40
4	313,516	4		683,523	4	.46
5	537,456	1		4,715,471	1	.11
6	Not relevant (see text)			16,266,334	2	
Technology						
brick	26,873	15		85,434	11	.31
tube	105,252	40		294,751	36	.36
tunnel						
Seiffees only	537,456	1		4,715,471	1	.11

(a) Assuming that all bakeries use Datsun 1 ton pick up costing Sh 44.788 in October 1977.

(Source: Kaplinsky 1981, 156)

The study maintains that it is the lower selling and distribution costs, and levels of investment in the industry, that contribute to higher rates of returns amongst low technology units (p. 160).

Rural bakeries' costs are anticipated to be lower due to lower building standards in rural areas. Unit overhead costs and unit repair costs are also anticipated to disadvantageously affect 'large, urban based bakeries using tube and tunnel ovens, since brick ovens require little maintenance (or repair, having no moving parts) and rural and small bakeries have few overheads which have opportunity costs with the owners "managing" and undertaking clerical jobs in their spare time' (p. 159). (See Appendices 43-44 for further information on comparative costs.)

Labour Costs vs. Productivity

A general trend revealed in Table 1.5 is that unit costs of labour tend to decrease as the size of bakery increases (p. 119). One exception to this rule, however, as noted in the study, relates to the two largest bakeries: '... Elliots having higher unit wage costs than the smaller Seifees bakery which reflects both higher wage rates and lower productivity of labour' (p. 119). The higher unit costs of labour in urban as compared to rural areas (14.49 shillings per bag produced in rural and 15-60 shillings per bag produced in urban areas) was said to counterbalance the higher labour productivity of urban bakeries (314 bags per year per labourer compared to 237 bags per year per labourer in rural bakeries (p. 118)).

Unit labour costs in rural bakeries were therefore lower, at Kenyan shillings 14.49 per bag as compared to Kenyan shillings 15.60 per bag for urban bakeries (p. 118).

Table 1.5

Unit labour costs (shs per bag)

	Average	**Std Dev**	**N**	**t**	**Sig**
Location					
rural	**14.49**	**7.73**	**24**	**.51**	**NS**
urban	**15.60**	**7.88**	**27**		
Size (bags p.a.)					
0 - 2,500	**18.62**	**9.57**	**13**	**1.32**	**NS**
2,500 - 10,000	**14.96**	**7.01**	**23**	**.54**	**NS**
10,000 - 20,000	**13.54**	**6.79**	**10**		
20,000 - 50,000	**11.10**	**2.69**	**4**		
50,000 - 100,000	**3**	**0**	**1**		
Over 100,000	**9.2**	**0**	**2**		
Technology					
brick	**16.66**	**8.62**	**13**	**.73**	**NS**
tube	**14.85**	**7.34**	**37**		
tunnel	**7.13**	**3.58**	**3**		

t test conducted for samples over eight.

(Source: Kaplinsky 1981, 120)

Markets and Competition

The lack of taste discrimination amongst bread buyers in Kenya (p. 51) has meant that large scale bakeries dominate the bread market by marketing their 'image of modernity' through the use of superficial quality guises such as brandname and wrapping marketing techniques.

Otherwise, large high cost bakeries 'maintain production by diversifying into non price-controlled markets' (p. 262) such as non-plain bread, and bakery products like biscuits, cakes etc. In the particular case of the largest producer, Elliots, controlling two thirds of the bakery output (p. 191), its survival and profitability is ensured by the external economics it derives from vertical and horizontal integration. Its vertical integration with the local wheat and flourmilling industries allows it to receive supply and cost advantages including financing from within the conglomerate. Horizontal integration with breakfast food and other production ventures particularly enables large scale producers to avoid the constraints of seasonal fluctuations in consumer income through its ability to switch to other production outlets, an option not open to small producers (p. 258).

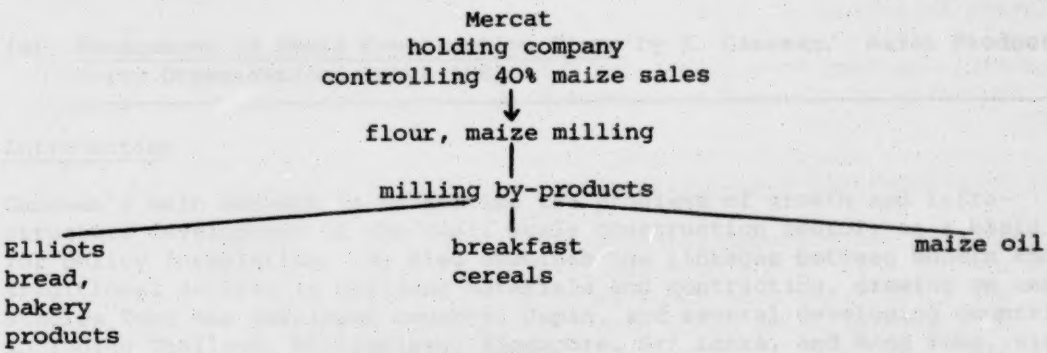


Fig. 1.1 Structure of large scale production : the Mercat group

The domination tactics used by the second largest bakery chain, Seifees, were to push small bakeries out of the market through the combined effects of its control over regionalised retail outlets and their competitive pricing strategies. Such pricing strategies were designed to force down prices to wholesale levels unprofitable for small scale producers. The same large scale producer also used differentiated pricing of products in various markets to secure profits and resorted to marketing strategies, such as the offer to take back stale loaves of bread from retailers, to capture markets.

This large scale domination over small scale production comes despite many odds such as their inefficiency in the 'use (of) more labour and investment per unit of output than their more efficient (small scale) counterparts' (p. 91); their lower rates of return compared to small urban and rural bakeries (p. 160); and their inability to benefit from the insignificant level of scale economies in bakery production. At the same time, however, dominant large bakeries are to some degree in competition and complementary production with smaller bakeries. Large bakeries tend to dominate urban markets, the market for 'luxury' bakery products (biscuits, cakes etc.), but also share in the lower income urban markets. The apparent lack of taste discrimination in bread consumers appears to give some small bakeries a competitive basis in the bread market, while regionalisation of large scale production in urban areas reserves a market for small rural bakery production.

Conclusions

What emerges from this study is that large scale production is not necessarily synonymous with efficient production. The basis for domination of large scale over small scale bakeries is primarily through non-price competition, although pricing strategies (such as differentiated pricing) play an important part in profitmaking for some large scale producers.

SECTION TWO

CONSTRUCTION

The particular concern with small scale enterprises in the construction industry relates to its capacity to stimulate economic growth through a multiplier effect on labour intensive production. This also explains the interest in petty commodity housing production in the building construction and materials industry (see Lubell and McCallum 1978). However, data on informal or petty commodity production (pcp) in this area is limited to qualitative information on subcontracting linkages in the building construction industry. What quantitative data that exists is limited to the building materials industry. This Section will look specifically at Ganesan's (1982) case studies on small firms in the construction industry while making reference to other studies where relevant.

(A) Management of Small Construction Firms by S. Ganesan. Asian Productivity Organisation, Tokyo 1982

Introduction

Ganesan's main concern is to examine the problems of growth and infrastructure development of the small scale construction sector, as a basis for policy formulation. He also examines the linkages between modern and traditional sectors in building materials and contracting, drawing on case studies from one developed country, Japan, and several developing countries, including Thailand, Philippines, Singapore, Sri Lanka, and Hong Kong, with details of the latter two presented here. Relevant information on output and productivity is presented separately for each case study with details on the building construction and materials branches.

Hong Kong

Introduction

This case study on the technological features, operational problems and policy assistance issues of small scale construction was undertaken between 1970 and 1979 in the context of a real growth rate of construction of 12.3% (p. 71).

Definition

The definition of small scale firms was defined as less than 50 employees (p. 103).

Sampling Base and Measurement

The case study was based on a survey of 300 firms selected from a list of 1,000 firms in a 1979 Builder Directory, including general and trade subcontractors. A total of 40 firms responded to the questionnaire (101-102). The building materials survey consisted of 42 firms selected randomly in 1980 (p. 92).

Contracting

The study estimated that between 5 and 6 thousand construction firms, including main subcontractors and specialist contractors, existed (p. 102). However, registered contractors only amounted to 115 in 1979 (p. 102). The study speculated that 'over 90% of subcontractors were very small firms, employing an average of 20 workers, with a total of 140,000 persons in the construction sector (p. 102).

Output

Output in contracting was said to range from a few hundred thousand dollars per year to around half a billion dollars ...' (p. 102). The high 14% ratio of all owned assets to annual output for building and civil engineering contractors was attributed to the high cost of land, buildings and office space in Hong Kong (p. 105). The ratio of plant assets to annual output in the building sector was put at 4.5% and 11.5% in the civil engineering sector (p. 105). Smaller firms were said to generally have higher investment in relation to output (p. 105).

Importantly, the Hong Kong Survey found that building contractors handed out 48% of the value of the work to subcontractors, and 32% to civil contractors (p. 104).

Capital Investment and Plant Utilisation

The study bases its statements about small firm capital investment and plant utilisation patterns on the premises that: '(a) assets per worker would be greater for large firms when compared to smaller firms, and (b) the output-assets ratio whether it is gross output or net output would be larger for smaller firms' (p. 104), implying that 'less investment in capital in a smaller firm would lead to proportionately more output' (p. 104).

Small firms were therefore seen to be less efficient in capital usage, but this was ascribed to specific problems exacerbated in the Hong Kong context - the higher cost of building space, and land, etc. (p. 105).

Labour Productivity

In terms of labour productivity, the study observed: '... considering permanent employees only, larger firms were almost twice as efficient in manpower utilisation (measured in $ output per worker) as the small firms' (p. 103). This is partly explained by the highly non-permanent nature of small scale labour (p. 103). According to the study, '... (a)nother relevant factor is that firms that are highly specialised should have higher labour productivity than those in general subcontracting' (p. 103).

Linkages - Subcontracting

Subcontracting is described as a two-party agreement, in this case being vetted by standardised legal documents in the public and private sectors.

Subcontracting was said to be largely practised as a means of labour supply, which could sometimes involve the 'subletting' of a whole job (p. 104). Generally, it covered most trades, and all firms with an annual output of under $1 million (p. 104). Sophisticated finishing was, however, the exception to this subcontracting practice.

Labour utilisation amongst contractors seemed to include apprentices. 19 of the sampled firms in the Hong Kong Survey together employed 2,400 workers, including 176 apprentices in professional, technician, operating or craftsmen grades (p. 106). However, by comparison over one third of the firms had not used apprenticed labour from 1977 to 1978 (p. 106).

Growth and Constraints of Subcontracting: Intersectoral Linkages

The growth of subcontracting was said to be linked to the growth in the construction industry in Hong Kong, which 'more than doubled its output in the seventies', and to follow from the increased specialisation and specialist contracting arising from increasing sophistication in building designs (p.103).

Amongst the reported constraints facing contractors were inflation, insufficient craftsmen and supervisory personnel supply, and materials shortages. Inflation particularly figured as a major constraint in 1979 (p. 106). Additional problems arose from the system of delayed payment, which, running up to 3 months, induced cashflow problems (p. 106). The management of subcontractors was also posed as a problem (p. 107).

Building Materials

Description of the System of Production in Branch

Size

Within the building materials sector the majority of units are small scale, with most of these employing between 1-9 workers (see Table 2.1). For example, 93 out of the 123 units in sawmilling, 11 out of the 20 units in structural clay products, and 136 out of the 213 in nails, screws and hinges employ fewer than 9 workers.

Table 2.1

PRODUCTIVITY INDICES FOR MANUFACTURING CLASSIFIED BY EMPLOYMENT SIZE

(Productivity = 100 for the biggest employment group)

Description	Total Units	Establishmen[illegible]ze and Productivity Indices											
		No. in Size A	PI-1	PI-2	No. in Size B	PI-1	PI-2	No. in Size C	PI-1	PI-2	No. in Size D	PI-1	PI-2
Saw Mills	123	93	58	78	14	77	54	12	102	85	3	100	100
Structural Clay Products[1]	20	11	56	93	5	64	85	4	100	100	–	–	–
Nails, Screws and Hinges	213	136	72	115	53	113	124	15	93	103	6	100	100
Non-metallic mineral products (concrete pipes, stone crusher, blocks etc.)	48	39	39	96	n.a	n.a.	n.a.	5	100	100	2	n.a.	n.a.
Hand tools and general hardware[2]	310	n.a.	n.a.	n.a.	63	93	114	57	112	106	15	98	105
Metal Windows and doors	804	731	38	96	46	101	93	21	83	86	7	100	100

Key. (a) Size A – Number of persons engaged is 1–9;
Size B – 10–19 persons, Size C – 20–49 persons; Size D – 50–99 persons Size E – 100–199 persons

[1] There are 3 establishments employing more than 100 workers.

[2] There are five establishments in Size E. Productivity Index for these is taken as 100. There are also two other Units employing in each more than 200 workers.

Source: Derived from *Industry data (1977)* of Dept. of Census and Statistics

(Source: Ganesan 1982, 91)

Productivity

As seen in the production characteristics of the small scale (Table 2.1 above), small scale is characterised by lower output per establishment and lower labour productivity. Assuming raw materials to be 'more or less the same regardless of the size of operations ...' (p. 90), Ganesan finds that productivity improves with the increase in the size of the establishment (p. 90). The differences, however, in the 20-49 and 50-99 persons group are negligible (p. 90).

Productivity increases as indicated by 65% of the sampled firms were attributed to '(a) increased mechanisation, (b) labour being more skilled or experienced, and (c) better management' (p. 92).

Capital Investment

In relation to technology inputs, capital investment was said to range from hand-driven tools and semi-automatic machinery (in smaller units), to fully automatic machinery (half the sample), in firms with a gross output of over $5 million (p. 92).

Constraints

Amongst the constraints identified by firms and industries in local building materials manufacturing were: 1) the lack of skilled and unskilled workers in certain areas (metal, wood, glass parts industries; 2) the lack of storage facilities (e.g. for bulky products); 3) the lack of factory space for manufacturing; 4) lack of raw materials; 5) insufficient markets (especially in metals) and marketing difficulties; 6) problems with financing working capital; 7) late delivery orders; 8) old and obsolete machinery; and 9) inflation, which was said to be'more of a problem for the larger firms with higher running costs and uncertain markets', whereas 'lack of capital ... (was) ... a bigger problem for the smaller firms' (p. 93).

Sri Lanka

Introduction

This case study examines the problems of small scale construction firms, particularly of buildings materials units, in a policy context. By way of background, the growth rate in the construction industry of Sri Lanka was estimated to be 11% in 1980 (p. 16).

Definition

The study distinguished between traditional (very small units), modern - medium scale and modern - industrial materials production units according to technological characteristics, but specific details as to their distinctions were not given.

Sampling Base and Measurement

The data source included national census and statistical data, and a number of studies, most important of which was by Ganesan (1979): Growth of Housing and Construction Sector: Key to Employment Creation (Pergamon, Oxford, Chapter 6).

Construction Contracting

Construction contracting in the 1960s was said to be largely performed 'in an informal atmosphere, with practically no access to capital, qualified personnel etc. (Although) there were also a few major civil engineering contractors (including earth moving). (E)xcept for construction of major bridges and highways, the bulk of the work was done by the contractor system, and a good deal of it was channelled through the National Chamber of Commerce in the late '60s ...' (p. 31). The 'market' of the small scale contracting sector was traditionally defined by the private housing sector market. Recent government policies since 1977 have, however, extended its market direction towards the public housing sector. In these terms the increasing importance of public sector contracting out to small firms makes it interesting to look at the contracting system as it relates to the public sector.

'Subletting' on the basis of provision of labour (only) by the subcontractor 'was in the 1960s a common practice' (p. 32). The study gives two examples of public sector contracting in the 1960s. In road works jobs were contracted out to overseer contractors who were employed by the Public Works Department. Irrigation Department work, however, was done by private contractors, under the supervision of Department technical staff (p. 31). 'The technical assistant actively helped the contractor to do the job; he was often part of the contractor's organisation and - as believed by many - shared the profits of the contractor, although this was illegal. Officially he supervised the work and also certified the work for payment by the Department' (p. 31).

State direction of the contracting system, introduced after the 1970 change of government, was organised under the Sri Lanka Construction Consortium. Under this system, 'considerable flexibility is exercised by this organisation in the selection and recommendation to the government of contractors. Neither the organisation nor the selected contractor gives a binding guarantee to the government for the completion of the contracted works, based on a negotiated sum. However, the Consortium undertakes to replace the contractor in case of faulty work' (p. 32).

Unlimited value contracts were allotted out to contractors under this consortium according to the value of turnover deemed manageable for various contractors. Thus, 'there are only a few contractors who can manage an annual turnover in the region of Rs. 50-100 million. Out of 150 contractors registered with the Department of Buildings, only 10% are in the category eligible to do works of unlimited value greater than Rs. 1.5 million per project' (p. 32). Only 25 contractors recently were categorised as being able to handle jobs greater than Rs. 1 million (pp. 32-33). The State Development and Construction Corporation had a turnover capacity of Rs. 80-150 million, while the largest (local) civil engineering contractor, Ceylon Development Engineering Limited, had a turnover below this. The relatively limited capacity of local construction contractors, especially in terms of complex jobs, has resulted in the contracting out of Rs. 7-8 billion worth of construction jobs to overseas contractors in recent years (p. 34).

Description of the System of Production in the Building Materials Branch (Sri Lanka)

Employment

A comparison of the production characteristics of the main sectors within the building materials industry in Sri Lanka is presented in Table 2.2.

Table 2.2

COMPARISON OF LABOUR INTENSITY, CAPITAL INTENSITY AND MACHINERY AND TOOLS USED PER WORKER ETC. IN BUILDING MATERIAL PRODUCTION IN SRI LANKA (1973 VALUES)

Sector[1]	No. of establishments	Average output per establishment Rs.	Employment (direct) in Rs. 1M production[2] No. of persons	Payment to labour (direct) in output[2] %	Gross capital assets per worker[3]		Machinery & tools per worker		Capital output ratio
					m.v. Rs.	r.c. Rs.	m.v. Rs.	r.c. Rs.	m.v. Rs.
Traditional	100	below 50,000	410[4]	36	400-2000	800-4700	1-700	1-1300	0.3-0.8
Small scale including traditional	169	below 300,000	130[4]	21	400-12000	800-15000	1-7700	1-11000	0.3-1.9
Modern medium scale	28	300,000 1,000,000	40	10	6400-44000	13000-101000	2500-24000	6000-69000	0.4-1.6
Modern industrial	12	above 1,000,000	37	17	9800-217000	215000-412000	3300-182000	5300-332000	0.2-4.3

m.v. – market value of assets.
r.c. – replacement cost new at 1973 prices.

[1] Principal materials in the different sectors are given below. Some materials are manufactured in more than one sector. *Traditional*: bricks, country tiles, sand, lime, cadjan, etc. *Small scale*: timber, cement products, brassware, aggregate, drainage fittings, electrical fittings etc. *Modern medium scale*: flat tiles, paint, varnish and distemper, wire nails, electrical fittings and switches, brassware and other fitting etc. *Modern industrial*: cement, steel, plywood products, asbestos cement products, hardware, ceramics, plastic pipes, electrical cables, etc.

[2] At ex-factory price.

[3] Working capital was not included.

[4] A part of this employment is part-time or seasonal. No allowance has been made for this in the computations in this table.

Source: Ganesan (1979), op. cit. p. 25.

(Source: Ganesan 1981, 23)

The traditional sector as seen here is more labour intensive than other sectors, with the employment contribution of the traditional sector estimated at 70% (p. 8). The differentials existing between employment generation in these various sectors, however, were said to be accentuated by the temporary or seasonal status of much traditional sector employment.

Output

Table 2.2 shows the marked distinctions in average output between various sectors. Traditional building materials units are estimated to supply 35% by value of all building materials consumed (p. 8), and had an average output valued in 1973 prices at Rs. 50,000. This is compared to an average output of Rs. 300,000 to Rs. 1,000,000 in the modern medium scale sector, and Rs. 1,000,000 and above in the modern industrial sector.

Labour and Capital Productivity

Measures of labour and capital productivity for comparative sectors as indicated by the direct payment to labour in output and capital output ratio are also given in Table 2.2. Table 2.3 provides a breakdown of capital measures (capital assets per worker, machinery and tools per worker and capacity utilisation) according to different building materials used in different scale units.

Table 2.3

Labour, Capital Resources Used and Capacity Utilization in Selected Material Production Units, Sri Lanka (1973 values)

No.	Building material	No. of establishments	Direct employ. in Rs. 1 M production no. of persons	Income generation (direct) %	Capital assets per worker (m.v.) Rs.	Machinery and tools per worker (m.v.) Rs.	Capacity utilization %
Traditional and small scale units							
1	Bricks	37	1,120	47	700	10	67
2	Sand	13	850	79	400	13	44
3	Country tiles	4	850	47	500	6	63
4	Cadjan	5	800	52	400	1	44
5	Aggregate						
	(a) Manual quarry	2	560	45	1,300	110	81
	(b) Mech. crusher	6	110	21	8,400	4,000	14
6	Lime	17	240	28	1,600	40	50
7	Brassware	19	140	25	1,400	700	53
8	Drainage fittings	18	100	36	7,300	3,700	65
Modern medium scale and large industrial units							
9	Flat tiles	5	140	21	6,400	2,500	65
10	Hardware	1	100	31	25,000	20,000	25
11	Cement	1	26	24	93,000	46,000	67
12	Asbestos cement products	2	16	10	12,000	5,100	68
13	Steel	1	16	9	59,000	29,000	41
14	Paint, varnish, distemper, etc.	9	14	8	26,000	14,000	31

m.v. = market value

Source: Ganesan (1979), op. cit.

(Source: Ganesan 1981, 199)

Capital-output ratios in traditional units (as measured by the market value of assets) are estimated at 0.3-0.8; modern medium scale units have a capital output ratio of between 0.4-1.6; and larger modern industrial units have one from 0.2-4.3.

Capital-labour ratios (as indicated in the market value of assets) vary considerably between units. Traditional units, for example, employ between Rs. 1-700 capital per worker compared to Rs. 2,500-24,000 in the modern medium scale and Rs. 3,300-182,000 in the modern industrial sector. (Appendix 45 shows capital assets per worker amongst other production characteristics for brass and steel materials used in small, modern medium scale, and modern industrial units.)

Capacity Utilisation

Capacity utilisation was said to have 'a strong bearing on the capital intensity of production, since a lower capacity utilisation leads to a higher effective capital intensity' (pp. 23-24). (See Table 2.3 and Appendix 46.)

The expansive range of production of building materials in these various sectors (including the large industrial sector) (Table 2.3) shows substantial variations in capacity utilisation between and within sectors. Manual quarry and mechanical crusher aggregate are produced in the traditional and small scale building materials units, under a capacity utilisation of 81% and 14% respectively. The capacity utilisation of asbestos cement products production in the modern medium scale and large scale industrial sectors is 68% compared to 25% in hardware products.

Linkages

The foreign exchange component of building materials production appears an important linkage in this sector. Appendix 47 shows that raw materials are the most important component of foreign exchange needs in building materials production. Between production units, larger buildings materials factories and corporations are said to absorb greater amounts of foreign exchange than smaller units (p. 24). This is amply illustrated in terms of roofing materials production in Appendix 46, where traditional units producing country tiles had a 0% foreign exchange content in output, compared to a 10% foreign exchange content in flat tile production by modern medium scale and modern industrial units, and 41% and 82% respectively in asbestos-cement and GI sheet production by modern industrial units.

As seen from Table 2.4, between 25% and 30% of total retail sales of building materials were imported (p. 17). In 1979, the retail value of these imports was Rs. 628.7 million. A diversity of raw materials are also, however, produced locally for the construction industry (refer to Table 2.3). Bricks, sand, country tiles, cadjan, aggregate (manual quarry and mechanical crusher), lime, brassware, and drainage fittings were produced by the traditional and small scale sector. Building materials such as flat tiles, hardware, cement, asbestos cement products, steel, paint, varnish, distemper etc. were meanwhile produced by the large scale sector.

Conclusion

While providing important quantitative data on output and productivity measures in the building materials industry, this study was limited by the speculative nature of evidence on the small scale contracting sector. Nevertheless, a prominent feature in the construction sector which is highlighted is the highly labour intensive nature of small scale production by comparison to other sectors, and the importance of subcontracting to the construction sector.

Table 2.4

Building Materials – Local Production and Imports, Sri Lanka

All value in Rs. M.

Year	Local Production From registered factories	 From other units	 Total local production	Imports (retail value)	Total (at retail prices)
1968	203.3	108.3	316.6	119.4	431.0
1969	250.4	124.9	375.9	168.3	543.6
1970	303.9	129.6	432.6	181.6	615.1
1971	313.9	127.8	441.7	161.0	602.7
1972	358.2	133.4	491.6	190.6	682.2
1973	407.9	163.3	571.2	211.3	782.5
1974	469.1	165.6	634.7	199.7	834.4
1975	452.3	164.0	616.3	227.7	844.0
1976	469.7	175.8	645.5	340.9	984.4
1977	550.8	188.7	739.5	286.1	1025.6
1978	867.5	191.6	1059.0	363.7	1422.8
1979	1144.9	527.9	1672.8	628.7	2301.5

Source: Dept. of Census and Statistics, National Incomes Estimation Division.

Note:
(1) All prices are at retail values.
(2) Prior to and including 1977 retail value (of imported materials) includes FEEC* charges of about 65%. (* Foreign Exchange Entitlement Certificate).
(3) C.i.f. values for 1978-79 reflect also the devalued rupee (US$1 – Rs. 16 (app.)).
(4) Retail value of imports is in the range 25%–30% of total materials consumed (1979 = 27.3% and c.i.f. value of import for the year = Rs. 432.2 M).
(5) Products from other units are traditional materials like hand-made bricks, sand, lime, aggregate etc.

(Source: Ganesan 1981, 198)

(B) Other Construction Studies

Several other studies allude to or confirm the product quality distinctions between low and high income markets and traditional and modern technologies. Lubell and McCallum (1978) in their case study on the construction industry, Bogotá: Urban Development and Unemployment (Geneva: ILO), cite the exclusive production of chircal (low quality bricks) for low income housing production. In relation to the building materials used by petty commodity producers, Moser (1982), in her housing microstudy of Guayaquil, Ecuador, 'A home of one's own: squatter housing strategies in Guayaquil, Ecuador' in A. Gilbert (ed.), Urbanisation in Contemporary Latin America (Wiley, Chichester), shows the way in which low income communities use a wide variety of materials in building their homes. These range from recycled scrap, excavated materials, as well as a variety of house building products bought from small producers on the commercial market.

Subcontracting is an important element both in the structure and relations of production in the construction industry. The complex relations of production produced by chain subcontracting between small and large contractors in the building construction industry is a phenomenon arising out of the divisible nature of the construction process. Chris Gerry (1979), in Poverty in employment: a political economy of petty commodity production in Dakar, Senegal (Doctor of Philosophy thesis, University of

Leeds, March 1979) (and also Gerry (1978) 'Petty production and capitalist production in Dakar: the crisis of the self-employed' in World Development Vol. 6, nos. 9/10), shows how chain subcontracting within the construction industry is an area of partial proletarianisation, involving the use of independent entrepreneurs, partly doing contractual work, and jobbing to building contractors. Chain subcontracting creates a chain of 'unproductive' middlemen and likewise a means of differentiating remunerative scales, with actual labourers at the bottom end of the scale. Subcontracting in this sense involves the consignment of an order with time stipulations to one enterprise and the subsequent ordering out of parts of the production process to one or several other enterprises as a sequence of cooperative subcontracting relationships on a piecework basis. Thus, cooperative subcontracting is seen to offer an alternative to subcontracted enterprises not having the time to do the total job or not possessing the range of skills to complete the process (Gerry 1979, 304-305).

In her account of the range of productive relations within the construction industry in Lima, Peru, 'Who are the self-employed?' in R.J. Bromley and C. Gerry (eds.), Casual Work and Poverty in Third World Cities (John Wiley, London), MacEwen Scott (1979) shows that these contracting enterprises experience differentiation according to the levels of capital and technology invested and forms of employment within enterprise size categories.

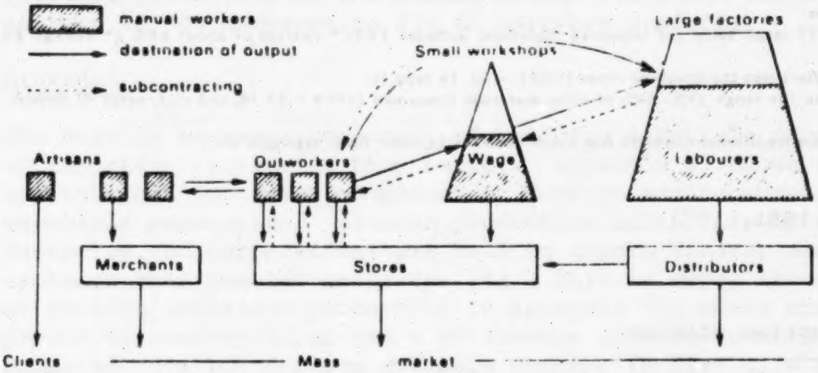


Fig. 2.1 Relations of dependence and independence in the manufacturing sector
(Source: Bromley and Gerry 1979, 115)

In contrast to Ganesan's (1981) findings of limited specialist subcontracting in developing countries, MacEwen Scott (1979) finds that small scale construction is typically performed by a number of specialised artisans (e.g. building trade workers in bricklaying, plumbing, electricity, installation, painting and carpentry). Fig. 2.1 above gives a diagramatic representation of the organisation of this industry. The construction process is typically consumer-oriented and directed towards middle income and low income clients. Materials are provided by clients and the technology low, while labour is provided by specialists and paid or unpaid family labour and apprentices. Similarly, masterbuilders operating small businesses composed of journeymen, apprentices and unskilled labour will gear production towards consumers but more usually control subcontracting from large scale construction consortiums. In contrast with other areas of production, intermediaries in this context of subcontracting are largely the masterbuilders, professional architects, and engineering working labour force (MacEwen Scott 1979, 116). Significantly, MacEwen Scott speculatively contends that the control of prices is held by large enterprises rather than workers.

SECTION THREE

METALWORKING AND ENGINEERING

This section contains three case studies on metalworking and engineering. The first two, Gerry (1979) and Hakam (1978) share a common interest in recycled materials or spare parts, though differing with their emphases. Wall (1980), focussing on the localisation of the bicycle industry, provides information relating to the structure of productive relationships in this section of the engineering industry. In addition to these, De Coninck's cross-sectional study on petty commodity producers includes case history data from the enamelware and metal furniture making and hoe manufacturing industries (see Section Seven).

(A) Poverty in Employment: A Political Economy of Petty Commodity Production in Dakar, Senegal by Christopher Gerry. Doctor of Philosophy thesis, University of Leeds, 1979

Introduction

In his case study of petty producers in Dakar, Senegal, Gerry looks at the forms of subordination amongst different petty producers, including recyclers in the metalworking industry.

Sampling Base and Measurement

Gerry's sample was collected through a questionnaire survey of 285 self-employed small scale producers, in four occupational groupings. The sample came from 3 districts in Dakar, representing between 1% and 2% of Dakar's petty producers and traders (pp. 419-420).

Recycling in Dakar

In the recycling workshops of the Rebeuss Niayes-Thocker district of Dakar, Senegal, Gerry finds that mechanics and metalworkers are integrated into a system of production for commercial large scale suppliers of spare parts. As such small metalworkers are not necessarily typical artisanal workers producing for direct orders but rather produce 'for a mass market, in demand conditions which are well known to them' (p. 289), the bond of metalwork producers such as vehicle repairers to a system of intermediary supplier networks is determined by large scale (spare parts) supplier biases against unregistered trading connections (pp. 279-280) (cf Schmitz 1982). At the same time the implied dependence of these secondhand machinery users on foreign supply is said to in turn imply a 'quasi-monopoly of supply repair and maintenance' (1979, 273). Coupled with the above supply problems, the restriction of small vehicle repair shops to left-over iregular markets not controlled by European concessionnaires in regular component supplies (p. 290) appears as a major constraint to these producers.

(B) Technology Diffusion from the Formal to the Informal Sector: The Case of the Auto-Repair Industry in Ghana by Ali N. Hakam. Geneva, ILO, 1978

Introduction

In this case study of the auto-repair industry Hakam shows how, in a materials scarce economy, the informal sector organisation of the secondhand auto-repair industry provides an important means for technological diffusion from the formal sector. He describes the importance of informal sector adapted technology, and a labour-intensive apprenticeship system, in providing the technological basis and labour force to both complement and substitute for formal sector modern technology supply deficiencies in the auto-repair industry.

Definition

The distinction between the informal and formal sector is based on the level of technology with the formal sector utilising modern technology while the informal sector relies on labour-intensive adapted technology.

Sampling Base

The sample consisted of 212 auto-repair enterprises located in Accra and in other regional capitals.

Description of the Branch of Production

Employment

The importance of 'informal sector ' employment generally in Accra is shown in Table 3.1, while Table 3.2 shows the contribution of apprentices to the metal engineering industry. Of the total of 35,665 workers in 1970, 23,000 were apprentices (p. 11) and overwhelmingly young (between 15 and 24 years). Within this branch the range of labour demand varies according to the line of vehicle repair, as seen in Table 3.3. Of the branches, vehicle repair (fitting of engines) and welding (straightening and bodybuilding, and spraying of vehicles) provides the most employment (pp. 15 and 16).

Capital Intensity

As expected, the level of capitalisation of firms in the secondhand auto-repair industry was limited. 40% of sampled firms had invested less than 300 cedis in machinery and tools, and only 26% invested 1,000 cedis in machinery and tools (p. 60, 53). This informal sector industry was thus characterised as labour-intensive, with low capital usage of obsolete machines and rudimentary tools and machines (hammers, screwdrivers, vices, chisels, mallets, simple drills and oxyacetylene torches), and scrap materials such as iron and steel (p. 54) (see Table 3.3).

Table 3.1

Distribution of employment by industry and sector (1960-74) (1,000 persons)

Industry	1960	1970			1974
	Both sectors	Both sectors	Formal sector	Informal sector	Formal sector
Agriculture	1 581 (61.8)	1 787 (57.2)	49	1 737	89
Mining	48 (1.9)	31 (1.0)	25	6	
Manufacturing	224 (9.1)	380 (12.0)	53	327	60
Construction	89 (3.5)	74 (2.3)	49	25	47
Utilities	14 (0.6)	12 (0.4)	2	-	20
Commerce	371 (14.5)	436 (13.9)	36	400	37
Transport	68 (2.6)	84 (2.7)	33	51	35
Other services	154 (6.0)	329 (10.5)	138	191	181
Total	2 249 (100.0)	3 133 (100.0)	395	2 737	469

Sources: Five-year Development Plan (Accra, 1977), p. 333; The 1970 Census, the 1970 Labour Statistics, and the Economic Survey (Accra, 1977). The figures for the informal sector were derived as residuals by the author.

(Source: Hakam 1978, 6)

Table 3.2

Apprentices in the metal engineering industry (1970)

By region	Males	Females
Great Accra	5 303	102
Eastern	5 307	55
Ashanti	7 724	82
Brong Ahafo	1 954	-
Central	3 601	20
Western	2 394	10
Volta	3 682	16
Upper	299	-
Northern	496	2
Total	30 760	287
By age group		
15-19	12 006	68
20-24	12 929	201
25-29	4 259	18
30-34	1 045	-
35-64	521	-

Source: Population Census, 1970.

(Source: Hakam 1978, 11)

Table 3:3

Capitalisation by industry

	All industries	Auto spraying	Welding	Bolts and nuts	General repair	Auto elec.	Cutlasses, hoes, etc.
No. of establishments	150	6	10	2	105	8	11
% of sample	47	4	6.7	1.3	70	5.3	7.3
No. of machines:	317	36	96	13	82	19	36
Electric	149	12	51	5	30	19	1
Diesel	19	12	9	1	2	13	0
Mean age of machines (years)	6.2	3.5	6.2	5.2	5.9	0	11.1
% secondhand	25	33.3	13.5	23	25	31	.14
Fixed K per firm	C 685	C 2 600	C 4 263	C 2 304	C 190	C 589	C 191
No. of power-driven machines per firm	1.12	2	6	3	.3	4	0.9
Output per firm (per month)	C 275	C 400	C 1 427	C 1 335	C 160	C 180	C 56
No. of workers per firm (including apprentices)	7.39	4	9	3.6	8.2	6.5	5.1
Capital per unit of output	2.49	6.5	2.98	1.72	1.18	3.27	3.41

(Source: Hakam 1978,52)

Labour Intensity and the Apprenticeship System

In Ghana the particular labour-intensive organisation of the auto-repair industry through the apprenticeship system serves the following multiple purposes:

a) the payments made by apprentices provide a means of income for masters and a source of capital for enterprise building;

b) it provides a means of generating a skill for apprentices;

c) while providing a negligible income for apprentices in cash and kind (p. 44).

Markets and Competition

Generally, formal sector production in the auto-repair industry is said to service the higher income market, while informal sector production of secondhand and adapted technology is largely restricted to the lower income end of the market. However, because of the problems associated with formal sector dependence upon foreign raw materials supply (e.g. foreign exchange shortages etc.), informal sector repair services and technology (with secondhand and scrap materials) makes up for formal sector supply deficiencies. Therefore the market for informal sector secondhand spare parts supply is not always segmented and restricted to the lower income market.

Primarily due to the labour-intensive nature of its production and use of cheap raw materials (as in auto-spraying, and the use of scrap metal and broken down autobodies and labour intensiveness in welding and truck body building), the informal sector holds competitive cost advantages over the formal sector. Other aspects of its competitiveness lie in its sometimes complementary provision of raw materials and products in the auto-repair trade and bolts and nuts production (pp. 55, 56).

Expansion and Survival

Small enterprises in the industry are, however, subject to fierce competition, as indicated in the high attrition rate of small enterprises shown in Table 3.4. Not surprisingly, auto-repair is thus said to be a negligibly profitable enterprise with a low rate of capital accumulation (p. 48).

Conclusions

Although this study lacked quantitative information, it nevertheless showed that the informal sector auto-repair industry provides an important source of employment, and performs an important area of complementary service production, but does not provide a profitable means of income. As was shown in Part Two in the African city studies, the informal sector often survives with the apprenticeship system as a source of cheap labour.

Table 3.4

Age of the sample enterprise (212 firms)

Years in business	% of total enterprise
Less than 5	54
6 to 10	22
11 to 15	10
16 to 20	6
21 to 25	3
26 and over	5
	100%

(Source: Hakam 1978, 13)

(C) Studies of Small Scale Enterprises and Urban Labour in South India
by John Harriss. Development Studies Occasional Paper No. 19,
University of East Anglia, March 1982

Introduction

In examining the 'working poor' of Coimbatore in the Tamil Nadu region of South India, this city level study looks at the nature of linkages between small 'informal' and large scale activities, with particular reference to the engineering industry. The study explores the nature and extent of informal sector subordination to large scale enterprises and examines the evolutionary growth dynamics of the informal sector. The quantitative data in the study include sectoral data on informal sector employment and very brief data on the relations of production in enterprises. Most of the data on the relations of production is inclusive of all petty commodity productive (pcp) units in Coimbatore, the data on linkages more specifically looking at nature of productive relationships within engineering.

Sampling Base and Measurement

The study was based on field survey data of workshops and factories in the engineering and metal industries, in addition to petty commodity producers in these and other industries. Included in the data collection methods of 87 workshops and 84 petty commodity production units were participant observation and survey interviews undertaken in 1980. The sampling procedure varied according to the employment category. Registered large scale factory units were sampled systematically for 15 out of a total of 53 units; and a 10% random sample taken for small scale industries (pp. 13-14). Pcp units were sampled representatively from an occupational survey of 5 slum areas in Coimbatore (pp. 13-14).

Description of the System of Production in Manufacturing

Sectoral Distribution of Industry and Employment

The picture of sectoral employment and industrial structure amongst registered production units presented for Coimbatore in Table 3.5 below shows that small scale engineering units (33-37) dominate the industrial structure.

Forms of Production

The activities described as the 'lower forms of production' (see Appendix 48) cover a range of engineering activities such as graded iron castings, and rough castings, and traditional areas of petty commodity production such as those of shoe and sandal making and leather working activities.

Relations of Production

Labour Force Composition

Most pcp units in Coimbatore are sole entrepreneur enterprises rarely employing more than 1 worker; the modal unit employs between 10 and 20 persons; although there are also workshops with over 50 employees (p. 15).

A household survey in Coimbatore found that 59% of those working were casual workers (30%) and dependent and self-employed workers (29%) (see Appendix 49).

Capital Investment and Returns on Capital

'New' pcp activities such as engineering have higher investments and returns than do traditional craft activities such as basket weaving. Thus investments in engineering activities ranged from Rs. 1,000 in cycle repairs to Rs. 10,000 in lathe shops, and several thousand to several lakhs of rupees in workshop units, typically ranging from Rs. 7,000 to Rs. 70,000 (p. 15).

Ownership and Financing

The ownership characteristics amongst unregistered and registered production units as set out in Table 3.6 below show that unregistered enterprises are started by workers/artisans, while registered workshops most typically are owned by managerial professionals or business professionals (p. 16).

The financing patterns of unregistered and registered units (see Table 3.7 below) shows that fewer registered workshops receive institutional financing for initial investment (between 13% and 38%) than for further financing (88% to 95% of the cases). Fewer unregistered workshops received institutional financing for both initial and further financing, with 7-29% receiving it for initial, and 50% for further, financing.

Chit funds and private financier sources are important for worker/artisan registered and unregistered units. Amongst other funding sources are those from kanduvaddikaran or petty moneylenders who charge exorbitant interest rates 'ranging from rates as high as 10 per cent per week, or 12 per cent over 10 days, to rates in the order of 20 per cent on a loan of Rs. 1,000 over 100 days ...' (p. 18).

Table 3.5

Factory Industry of Coimbatore 1979.(Coimbatore Taluk data)

(i)							(ii)	(iii)
Industry	size of units (numbers employed)						% of all employment in reg.ind.	registered SSI units
	10-20	21-50	51-100	101-500	above 500	TOTAL		
20-21 Food Prods	23	9	3	1	1	37	3	15
22 Beverages	0	0	1	1	0	2		13
23 Cotton textiles	25	33	17	25	35	135	49	0
24 Other textiles	3	0	0	0	0	3		0
26 Hosiery & Garments	1	3	0	0	0	4		16
27 Wood Prods	16	5	0	0	0	21		33
28 Paper Prods & Printing	41	11	3	2	1	58	1.8	119
29 Leather Prod	1	1	1	0	0	3		16
30 Rubber & Plastic Prod.	33	11	4	3	0	51	2	85
31 Chemicals & Chem.Prods	9	9	1	0	0	19	3.8	72
32 Non-metallic mineral prods	16	6	0	0	2	24	3.4	67
33 Basic metals	68	55	9	6	1	139	8.8	244
34 Metal prods	30	17	0	4	0	51	3.4	261
35 Gen machinery & pts	88	58	18	12	3	179	17.5 35.8	312
36 Electrical machinery	12	13	5	6	0	36	2.6	181
37 Transport equipment	12	10	5	7	1	35	3.4	36
38 Other manufactures	3	1	2	0	0	6		20
Others	5	5	3	0	0	13		0

Notes:

(i) 'Factory Industry' here refers to units which are registered under the Factories Act with the Inspectorate of Factories. According to the terms of the Act this should be all units employing ten or more people and using power; or all units not using power but employing twenty or more people.

(ii) These data, showing the percentage of all those employed in registered units who are employed in a particular industrial group, were taken from the records of the Factories Inspectorate in Coimbatore.

(iii) These are the numbers of units registered as 'Small Scale Industries' with the Directorate of Industry and Commerce.

(Source: Harriss, 1982, 11)

Table 3.6

Ownership of Workshops

All workshops		Workshops also registered under Factories Act
workers	40	8
artisans	2	0
manager/professional	26	14
industrialist	2	2
trader	9	2
agriculturalist	6	3
other	2	0
TOTAL	87	29

Note: the sample of workshops registered under the Factories Act is a sub-set of the main sample of 87 units.

(Source: Harriss 1982, 16)

Table 3.7

Financing and Growth of Workshops

Units which have received institutional financing facilities (as % of totals)

	original finance		finance for further investment	
Type of owner	registered workshop	unregistered	registered	unregistered workshop
worker-artisan	13%	7%	88%	50%
manager-professional	38%	29%	95%	50%
use of chit-funds or private financiers				
worker-artisan	13%	25%	25%	25%
manager-professional	0	5%	5%	10%

unit in which there is a record of accumulation (up to 1979-80)

	registered units	unregistered
median date of start	1970	1973
worker-artisan	100%	(22/34) 65%
manager-professional	100%	(16/19) 84%

(Source: Harriss 1982, 17)

Advances from traders are also used by some producers (e.g. shoemakers, and basketmakers). Looking at the patterns of accumulation amongst registered and unregistered units, it was found that 100% of the registered, as against 65% to 84% of the unregistered, had experienced some accumulation of capital.

In contrast, financing in new 'pcp' activities was raised entirely from 'informal' sources, with seed capital primarily from family funds, personal savings, private loans and chit funds (see Table 3.8).

Table 3.8

Financing of 'new' PCP activities (data for 30 units)

	Starting capital		Later financing	
Family funds	11 units	Bank finance	6 units	(2 term loans (4 'small loans'
Personal savings	17			
Private loans	8	Private loans	13	
Chit funds	3	Chit funds	4	

(Source: Harriss 1982, 19)

Structure of Production

Linkages

Harriss found that industrial enterprises owned multiple holdings in two forms, either as vertically linked production units (e.g. textile mill owner owning small scale industries specialising in textile machinery spare parts production) or as large scale multiple ownership through benami 'registrations', 'whereby a unit is registered in somebody else's name, usually a wife or child' (p. 20), in order to obscure large scale industrial ownership. However, a third type, multiple ownership of several workshop units by the same individual, is the most typical type in Coimbatore with 20 of the 29 registered factories also owning other workshops (p. 21).

Subcontracting

Subcontracted workshop production for big capitalist factories appears as a dominant feature of industrial organisation in Coimbatore, particularly in the engineering industries (p. 43). Some 40% to 50% of workshop production is organised in this way with a variety of relationships. The study identifies 3 main types of subcontracting relationships: 1) tied subcontracting, 2) tied job working of finished goods for big factories, and 3) indirect subcontracting (from big factories) through parts production (p. 26). In Coimbatore two thirds of all workshops have forward linkages to big capitalist enterprises (p. 44), whilst 'amongst engineering enterprises employing less than 300 workers over 70 per cent are sub-contractors and that 20-30 per cent are "tied" sub-contractors - working for a single firm only' (p. 29) (see Table 3.9).

Table 3.9

Sub-contracting and Linkages

Sub-contractors (own materials)	for big factories	25 (13)
	for workshops	5
job-work	for big factories	4
	for workshops	2
'tied' sub-contracting	for big factories	4
(own materials)	for workshops	1
	for a trader	1 (1)
job-work	for big factories	3 (1)
TOTAL SUB-CONTRACT		45 (15)
	for factory sector	37
Production of Parts or Finished Goods on order from factory sector		11 (6)
TOTAL WITH PRODUCTION LINKAGES WITH FACTORY SECTOR		48 (21)
Producers of Finished Goods		26 (6)
Producers of Parts for other small units		6 (2)
Total Number of Workshops		87 (29)

Note: Figures in brackets refer to units registered under Factories Act

(Source: Harriss 1982, 23)

Table 3.10 shows the specialised activities of workshops in the engineering industry where there are both similarities and differences in the types of activities between registered and unregistered units. For instance, textile mill spares are thus typically manufactured under tied subcontracting arrangements for unregistered units, while sheet metal parts production is undertaken by all three types of unregistered enterprises but limited to subcontracting in the registered sector.

Table 3.10

Specialised Activities of Workshops.

	Registered as SSI		Unregistered (workshops & PCP)	
sub-contractors				
	Textile mill spares	(2)	Electro-plating	(1)
	Sheet metal parts & pressings	(1)	Plastic parts	(1)
	Plastic parts	(2)	Sheet-metal parts	(2)
	Castings	(7)	Machined parts	(2)
	Structural metal fabrication	(1)	Aluminium and gun-metal casting	(2)
			Castings	(3)
			Glass-fibre ranks	(1)
tied sub-contractors				
	Casting	(1)	Machined parts	(1)
			Sheet-metal parts	(1)
			Textile-mill spares (via a trader)	(1)
	Job-work		Machined parts	(10)
			Patterns	(2)
tied job-work				
	Chain assembly	(1)	Machined parts	(6)
			Castings	(2)
			Sheet-metal parts	(1)
			Patterns	(1)

(Source: Harriss 1982, 26)

Subordination

Although subcontracting and jobworking, as in rough castings production, may produce savings in capital and labour costs and increase large scale adaptability to changing market conditions, this in itself presents insufficient evidence of 'unilateral dependence and exploitation' (p. 27). Harriss argues therefore that while various subcontracting and jobworking relationships have constraints imposed on them by their relationship to capital, some growth is possible. Thus, in the engineering sample:

> '... of 29 registered workshops, 12 of them started out as subcontracting or jobwork units and have either progressed to manufacturing on their own accounts (8 cases) or have experienced quite rapid and substantial growth. Eight of the workshops which are not registered under the Factories Act have similarly progressed from origins as jobwork units.' (p. 27)

Amongst the constraints facing subcontractors of parts and finished goods are cash flow problems, 'as they have to give extended credit (commonly

30 days) to the firms they supply, whilst often having to pay on delivery for raw materials themselves' (p. 27). In addition to these credit constraints: 'They are also subjected to raw materials costs squeezes, because of the inflationary situation and especially because of recurrent raw materials shortages ' (p. 27)

The variation in relationships with capital, however, means that there is a certain heterogeneity in the subordination to capital. For instance, new pcp activities 'include some which are subordinated to higher levels of production in just the way which is true of the workshops; and others (two-wheeler repair, cycle repair) which may be less directly subordinated, but which clearly depend for their markets upon incomes generated elsewhere in the economy, and which by their nature are disposed towards an "involutionary" pattern of growth' (p. 48).

Traditional pcp producers, most commonly operating in disguised wage work or as dependent workers, are linked and subordinated predominantly through financing and trading capital with kanduvaddikarans rather than the factory sector (p. 49) (see Appendix 50). The pcp producers in 'new activities' (such as lathe shops, welding, for example) are most commonly truly self-employed and therefore more susceptible to the uncertainties of raw materials markets and finance (p. 48).

Conclusions

Harriss's findings on the heterogeneity in subcontracting and productive linkages of workshops and capitalist enterprises clearly illustrate the importance of looking at the branch activity in the examination of claims of subordination to capital and the potential for expansion and accumulation.

(D) External Economic and Localisation in Small Scale Industry: A Case Study of the Bicycle Manufacturing Industry in Ludhiana District, India by John W. Wall. Doctor of Philosophy thesis, Duke University, 1973

Introduction

This thesis examines the external economies of bicycle manufacturing in Ludhiana District, India. Wall describes the pattern of localised external economies in bicycle manufacturing in terms of the vertical integration of small firms in the localised production of these bicycles, themselves horizontally linked to supplying 'firms outside the cycle industry (which) have adapted their production to supply the needs of firms within this industry' (p. v).

Definition

The distinction between large and small scale firms was based on the scale of capital investment. Large scale firms were defined as those with a capital investment (machinery and equipment) above Rupees 750,000 and small scale as firms with an investment size below this (p. 85).

Sampling Base and Measurement

The sample population was drawn from 785 registered firms, out of which 15% was randomly selected from each product line. Survey questionnaires were thus completed for 49 cycle firms (pp. 92-93).

Description of the System of Production in Manufacturing

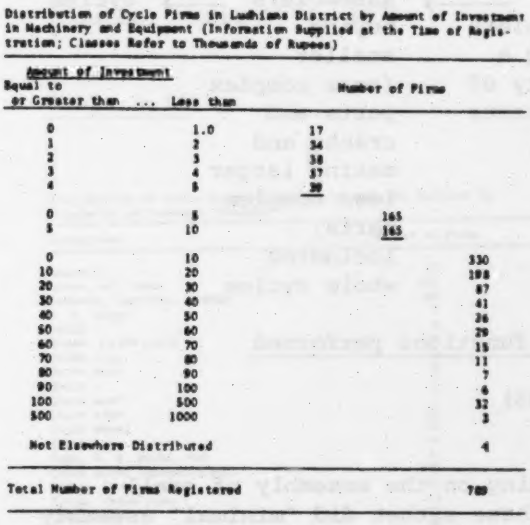
Sectoral Distribution

The industrial situation in Ludhiana District 1970-71 is shown in Appendices 51 and 52. The production of transport equipment, cycles, cycle parts, and auto parts ('of which bicycle production is by far the larger') is the third most important employer of labour (p. 85), after textile and food processing.

Relations of Production

As shown in Table 3.11, the average firm was small, with Rs. 39,300 of capital invested and employing 8.6 workers (in 1965) (p. 123). Variations in investment size, however, arose due to different specialisations between firms (p. 123). The ownership patterns of cycle firms were most commonly partnerships with 2-3 others (39 cases out of a total of 50), with only 11 of those surveyed individually owned (p. 118).

Table 3.11



Distribution of Cycle Firms in Ludhiana District by Amount of Investment in Machinery and Equipment (Information Supplied at the Time of Registration; Classes Refer to Thousands of Rupees)

Amount of Investment Equal to or Greater than ...	Less than	Number of Firms		
0	1.0	17		
1	2	34		
2	3	38		
3	4	37		
4	5	39		
0	5		165	
5	10		165	
0	10			330
10	20			198
20	30			87
30	40			41
40	50			26
50	60			29
60	70			15
70	80			11
80	90			7
90	100			6
100	500			32
500	1000			3
Not Elsewhere Distributed				4
Total Number of Firms Registered				789

(Source: Wall 1973, 111)

Table 3.12 reinforces this picture of small scale production, showing that of the fifty sampled firms 30 had fewer than 25 employees; and 15 had fewer than 10 employees. Thus 'Even though two firms have more than two hundred employees, overall, the fifty firms could be characterised as being small businesses' (p. 124).

Description of Production Linkages

Wall found the sequence of production (as shown in Fig. 3.1) was as follows: some firms specialised in the transformation of raw materials (such as steel) into simple components (17 in the sample).

Table 3.12

Frequency Distribution of Firms Interviewed by Number of Employees (Question 4)

Firms with Under 100 Employees No. of Employees	 No. of Firms	All Firms No. of Employees	 No. of Firms
0 to 4	2	0 to 24	30
5 to 9	13	25 to 49	7
10 to 14	9	50 to 74	5
15 to 19	6	75 to 99	3
20 to 24	0	100 to 124	2
25 to 29	2	125 to 149	1
30 to 34	3	150 to 174	0
35 to 39	1	175 to 199	0
40 to 44	1	200 to 224	0
45 to 49	0	225 to 249	1
50 to 54	3	250 to 274	1
55 to 59	0	275 or Above	0
60 to 64	1		
65 to 69	1		
70 to 74	0		
75 to 79	0		
80 to 84	3		
85 to 89	0		
90 to 94	0		
95 to 99	0		
Total	45	Total	50

(Source: Wall 1973, 113)

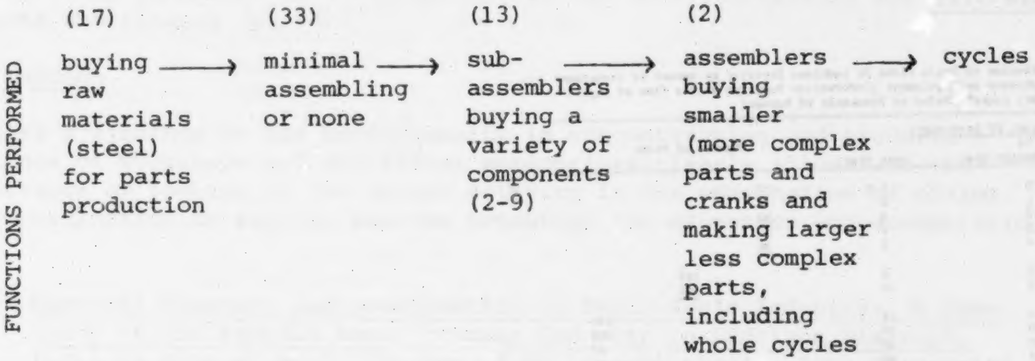

FUNCTIONS PERFORMED
(17)
buying raw materials (steel) for parts production
(33)
minimal assembling or none
(13)
sub-assemblers buying a variety of components (2-9)
(2)
assemblers buying smaller (more complex parts and cranks and making larger less complex parts, including whole cycles
cycles

Fig. 3.1 Number of firms in sample by functions performed

(Source: Adapted from Wall 1973, 124-125)

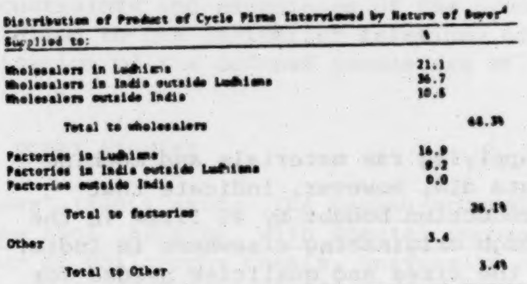
These were passed on to firms concentrating on the assembly of small components into larger parts. Some of these either did 'minimal' assembly since they bought 'one or no parts' from others (33 in the sample). Others engaged in 'sub-assembly', bought a variety of between 2 and 9 components (13 in the sample). Finally small assemblers 'buy(ing) the smaller, more complex parts like free-wheel, pedals and cranks' in order to 'make the larger, less complex parts like frames and forks ...' and assemble complete bicycles (2 in the sample) (p. 124).

The Role of Intermediaries

Wholesale and middlemen distributors play an important role both in cycle production and distribution, with two thirds of the industry's output being distributed by their supplying either parts or complete cycles (p. 126). 'Some of this flow is complete cycle and replacement parts to final users. But most of it goes to other cycle firms. A fourth of the industry's output by-passes the market and flows directly to other firms.' (p. 126)

Table 3.13, however, shows that at least 17% of cycle parts produced in Ludhiana go directly to other cycle firms in the district. The role of unregistered firms in the production process is meanwhile indicated in the statement that an 'unknown portion of parts manufactured locally pass through the local market to local firms' (pp. 128-129).

Table 3.13

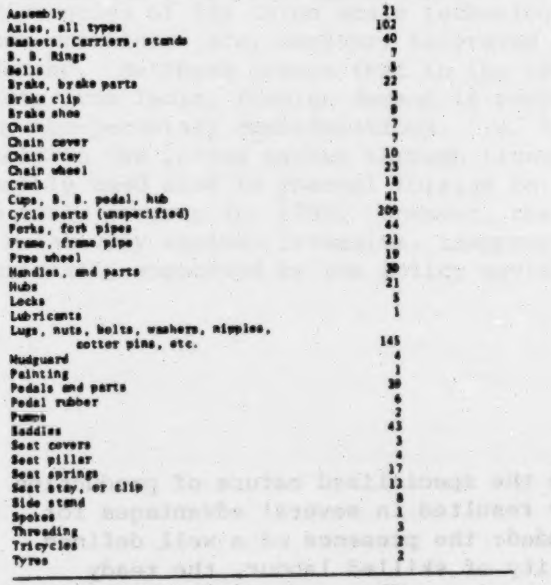


Distribution of Product of Cycle Firms Interviewed by Nature of Buyer[a]

Supplied to:	%	
Wholesalers in Ludhiana	21.1	
Wholesalers in India outside Ludhiana	36.7	
Wholesalers outside India	10.5	
Total to wholesalers		68.3%
Factories in Ludhiana	16.9	
Factories in India outside Ludhiana	9.2	
Factories outside India	0.0	
Total to factories		26.1%
Other	3.4	
Total to Other		3.4%

(Source: Wall 1973, 127)

Table 3.14



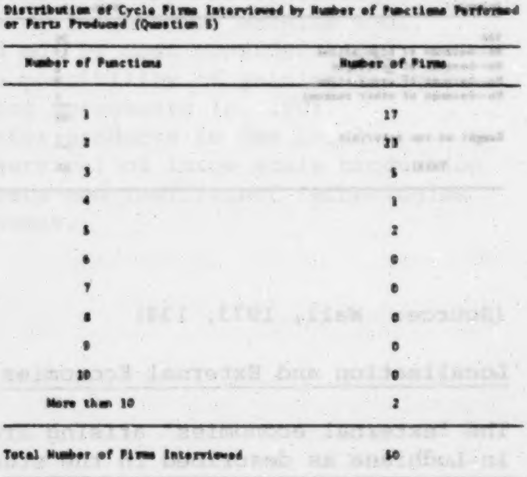
Distribution of Cycle Firms Registered in Ludhiana District by Categories of Products Produced

Categories	Number of Firms
Assembly	21
Axles, all types	102
Baskets, Carriers, stands	40
B. B. Rings	7
Bells	8
Brake, brake parts	22
Brake clip	3
Brake shoe	8
Chain	7
Chain cover	7
Chain stay	10
Chain wheel	23
Crank	18
Cups, B. B. pedal, hub	41
Cycle parts (unspecified)	209
Forks, fork pipes	44
Frame, frame pipe	21
Free wheel	19
Handles, and parts	30
Hubs	21
Locks	5
Lubricants	1
Lugs, nuts, bolts, washers, nipples, cotter pins, etc.	145
Mudguard	4
Painting	1
Pedals and parts	30
Pedal rubber	6
Pumps	2
Saddles	43
Seat covers	3
Seat pillar	4
Seat springs	17
Seat stay, or clip	12
Side stand	8
Spokes	1
Threading	3
Tricycles	2
Tyres	2
Total Number of Different Products	996
Total Number of Firms	780

(Actually should be entitled Distribution of Processes mentioned by firms registered in Ludhiana -- when a firm mentioned more than one process, it appeared in more than one category.)

(Source: Wall 1973, 110)

Table 3.15



Distribution of Cycle Firms Interviewed by Number of Functions Performed or Parts Produced (Question 5)

Number of Functions	Number of Firms
1	17
2	23
3	5
4	1
5	2
6	0
7	0
8	0
9	0
10	0
More than 10	2
Total Number of Firms Interviewed	50

(Source: Wall 1973, 114)

Linkages

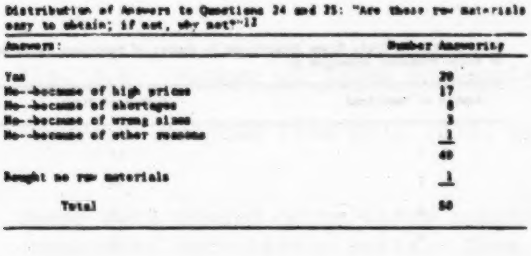
Tables 3.14 and 3.15 show the manner in which a number of firms are engaged in specialised production of one major function or bicycle component (p. 123). 'The 789 firms registered mentioned 996 functions they perform. Almost 80% of the firms mentioned only one function or product. Some firms made only nuts and bolts; others simply molded rubber for pedals; one firm did nothing (but) put paint (on) bicycle parts; another just threaded parts.' (p. 123)

Backward Linkages

Raw Materials

A description of the types of firms supplying raw materials and machine tools was not provided. The survey data did, however, indicate that most of the raw materials for cycle production bought by 46 firms in the sample are purchased in Ludhiana although originating elsewhere in India. Wholesalers 'specialising in handling the sizes and qualities needed for the cycle industry' (p. 133) therefore play an important role in the production process. Perhaps for this reason, as seen in Table 3.16, 'The supply of raw material seems to cause cycle firms little problem' (p. 133) although 'Thirty-seven of the forty-nine firms who bought any raw materials felt either the materials were easy to obtain or the only "difficulty" was a high price' (p. 133). The bulk of the raw material requirements was 'mild steel in various sizes, shapes and gauges; spring wire and assorted chemicals ... also used in substantial quantities' (p. 133).

Table 3.16



Distribution of Answers to Questions 24 and 25: "Are these raw materials easy to obtain; if not, why not?"[13]

Answers:	Number Answering
Yes	20
No--because of high prices	17
No--because of shortages	8
No--because of wrong sizes	3
No--because of other reasons	1
	49
Bought no raw materials	1
Total	50

(Source: Wall, 1973, 134)

Localisation and External Economies

The 'external economies' arising from the specialised nature of production in Ludhiana as described in the study resulted in several advantages for participating producers. These included: the presence of a well defined sales market structure, the availability of skilled labour, the ready availability of repair services, a factor market, and machinery supplies catering for cycle production and thereby contributing to lowered transport costs (pp. 137-140).

Competition of Complementary Production

While bicycles are said to be produced 'in the same relative magnitude in both the large and the small scale sector'(p. 85), the actual basis of complementary or competitive production was not expressed.

Conclusion

The advantages of localised industry aside, the study does not deal with the constraints and advantages of the predominance of small scale industry in relation to the capitalist relations of accumulation. This is, however, a limitation of the defined parameters of the study.

(E) Other Studies

Matthews' (I98I) study, The techno-economic development of the Indian machine tool industry, with special emphasis on aspects affecting efficiency (Doctor of Philosophy thesis, University of Glasgow) used a sampling base comprised of 'organised' industrial sector manufacturing units in the machine tools industry, including: 'all establishments except those employing less than 10 workers using power, and less than 20 workers without power' (p. 85).

While marking the absence of medium scale units in the Indian context (p. 185), Matthews reinforces others' views of the structure of production in large and small scale branch productive units. The informal unenumerated sector thus primarily services the local market, surviving on the basis of its low competitive prices, 'sometimes undercutting comparable tools in the organised sector by as much as 50 per cent' (p. 149), with the production of machine tools generally copied from imported products. The large scale sector monopolised by a state company (Hindustan Machine Tools, HMT) services and maintains foreign demand despite the high cost of its products. The inefficiencies of its large scale technological organisation contributing to such costliness are, however, tolerated by what is apparently foreign MNC demand. Matthews argues that in the case of large scale machine tool products from India, foreign demand is swayed not by cost considerations but by non-pecuniary considerations, i.e. the possibility of gaining a legal foothold in the Indian market through licensing agreements (p. 180), ostensibly used also to channel foreign investor products to the local large scale company (p. 179). However, the survival of large scale production with relatively capital intensive, inappropriate and inefficient technologies are primarily supported by the policy environment.

SECTION FOUR

SHOEMAKING

Branch studies on shoe production vary in terms of focus and quantitative content. Goddard's (1982) study on the leather trade in the Bassi Naples is a descriptive account providing information on the sexual division of labour within shoe production; Peattie (1978) offers an account of the general interrelationships between large and small scale shoe production in Bogota, Colombia, with very little in the way of quantitative information. Langdon (1976) provides an analysis of multinational expansion in the shoe sector in Kenya. The following examines the first two studies. Langdon's shoe case study, together with his review of the soap sector, follows in Section Five (see also De Coninck (1980) in Section Seven (A)).

(A) 'The leather trade in the Bassi of Naples' by Victoria Goddard, in Women and the Informal Sector, K. Young and C. Moser (eds.). IDS Bulletin, July 1981, vol. 12, no. 3 (pp. 30-35)

Introduction

Goddard (1981), in her study of the leather trade in Naples, Italy, shows how in the expanding process of decentralised production in the leather industry the predominant definitions of gender roles are reinforced.

Definition

Artisanal small scale units were defined in the study as 'a) a unit which does not produce by assemblage and normally employs more than 10 dependents including the owner's family and excluding apprentices; b) a unit which does not produce by assemblage but does not normally employ more than 5 dependents including the owner's family and excluding apprentices, and when the process of production is not fully mechanised; c) a unit which is active in artistic production, traditional production and the production of garments made to measure.' (p. 30)

Sampling Base and Measurement

This aspect of the methodology was not included in the text.

The Leather Trade

In this study Goddard finds that gender determines differential access to crucial resources such as capital, labour and personal networks, which are central to the individual's prospects as worker, employer and producer. While men may manipulate these networks to establish themselves as petty producers, women are constrained by them and remain dependent inside the factory or outside it.

Goddard describes the process by which women are linked in a system of dependent relationships to factory production. When women leave the factory at marriage, lack of capital means that they are unable to set up within individual enterprises. They become outworkers, bound to factories through a system of secondhand sewing machine credit in which 'a machine is paid for by deductions from her wages as an outworker ... This is often perceived as a favour but in fact, although it does solve the worker's immediate problem, it binds her to that employer until the machine is paid off ...' (p. 33).

Gender constraints such as the sexual division of labour, and the definition of women's work in the sphere of the household, prove as further factors limiting a movement towards independent production since they are excluded from access to influential non-familial networks necessary to enter and survive in independent production (p. 35).

Conclusion

While the study does not focus on the productivity aspects of petty commodity manufacturing, it does provide an example of how gender-linked outwork within the context of its associated productive relations contributes to the maintenance of dependent linkages with the capitalist sector.

(B) What is to be done with the 'Informal Sector'?: a case study of shoe manufacturers in Colombia by Lisa Peattie. Massachusetts Institute of Technology, 1978 (mimeo)

Introduction

Peattie describes the interrelationships between small and large scale producers in shoe manufacturing in Bogotá, Colombia. While including some data on output, productivity and wages in this branch, the study is primarily a qualitative account of the structure of production within shoe manufacturing.

Definition

The comparative framework of analysis of small (artisanal) and large scale shoe manufacturing enterprises essentially contains the elements for a pcp analysis of the 'informal sector'.

Sampling Base and Measurement

The study is based on 20 interviews with tiny (one-man), medium and larger shoemaking and repairing enterprises in Bogotá, Colombia. It also draws on secondary data sources on the Colombian shoe industry, including:

Mary Ann Bailey Calzado, Technology choice in the brick and men's leather shoe industries in Colombia, Economic Growth Center, Yale University, August 1977 (mimeo); and

Fundacion para el Fomento de la Investicacion Cientifica y Tecnologica (FICITEC) y Fondo de Promoccion de Exportaciones (PROEXPO), estudio sectorial de Calado en Colombia, 1972 (mimeo)

Branch Size

Drawing upon estimates from a 1972 export study, the study tentatively reports the number of shoe manufacturers in Colombia and Bogotá to be 560 and 177. Judging from Peattie's unofficial reports of size estimates ranging from over a thousand to 15,000 shoemaking shops in Bogotá, these figures appear to be gross underestimations of the actual size of this branch (p. 5).

Size of Enterprise

According to the findings of the export study quoted by Peattie, 75% of the enterprises within the shoemaking branch in Colombia had 15 employees or less, 21% had between 16 and 50 employees; and only 6% were generally mechanised firms with over 50 employees. The last group included 28 mechanised firms and 5 industrial producers with over 200 employees (p. 5).

Labour Force Composition

Challenging the assertion that unpaid family and child labour should be of strategic importance in shoemaking, Peattie argues that: 'The advantages of employing other family members in the same enterprises may lie elsewhere than in the area of remuneration, and they may actually appear more in the somewhat larger enterprises (... and have to do with ...) issues of coordination and control ...' (pp. 14-15). Peattie suggests that the artisanal skill requirements of small scale shoe production makes it unlikely to be an area of strategic use of child labour (p. 14).

Productivity

As stated in the study, labour productivity within the Colombian shoe industry averages 3.2 pairs a day per worker, with apparently little variation between small and large scale enterprises. Productivity in industrial firms is only slightly higher than this, with averages of 3.5 pairs a day per worker compared to 3.4 pairs a day per worker for mechanised shops with 50-200 workers and 2.4 for smaller shops (p. 6).

The Division of Labour in the Production Process

Production in small shoe manufacturing workshops appears to be fragmented into separate labour functions:

> 'One sews the uppers (seen usually as a woman's job), one joins and lasts - while the proprietor is responsible for selling, for designing, for buying raw materials and arranging any subcontracting, for general supervision, and such accounting as there is ...' (p. 8)

The Structure of Production

The enterprises start up with relative ease because of both the system of linkages with other enterprises, and the low levels of capital and technology required for production (p. 8). Raw material advances from stores and subcontracting relationships between enterprises reduce the burden of input constraints. Subcontracting between small enterprises makes it possible for some to maintain low levels of technology (with simple technology such as hand tools, lasts and leather), as in the subcontracting out of leather uppers or guarnicion from producers without machines to those possessing machines (p.8).

The Organisation of Production: Linkages

In the case of Bogotá, small scale firms numerically dominate the shoe industry (p. 5). Although the commercialisation of shoemaking has led to specialised production and distribution functions, even large firms such as the multinational, Bata shoe company, engage in shoe subcontracting.

Peattie locates two types of 'upward' and 'downward' subcontracting:

1) 'Subcontracting'..."upwards" by talleres so small that they do not have the requisite machine, or

2) "downwards", by the larger firms to domestic workers who receive lower rates of pay than they would if directly employed in the factory...' (p.26)

Markets and Competition

Evidently the shoe market in Colombia is segmented according to quality. 90% of the small portion of shoes of exportable quality, for example, consists of quality rubber-soled shoes produced by one American-controlled industrial firm (p.6). Large producers appear to infringe on the mass market through their marketing of sophisticated standardised products which are frequently adapted to the demands of fashion (p.7). Small producers, while catering to the local low income market, also provide for high income quality markets, complementing large scale producers' output particularly to meet the rapidly changing fashion needs of the market (p.7, 28).

Conclusions

The dominance of large scale shoe manufacturers as held by Peattie is thus said to be more a question of their economic strategies rather than related to questions of economic efficiency (pp.28-29).

SECTION FIVE

SOAP AND SHOES

The following study focusses specifically on the monopolisation of 'competitive' relationships between multinational corporations and the small scale sector, with reference to soap and shoe industry case studies.

(A) Multinational corporations in the political economy of Kenya by Steven W. Langdon. Doctor of Philosophy thesis, University of Sussex, 1976

Introduction

This thesis examines with particular reference to the soap and detergent industries the causes of multinational corporation (MNC) expansion in the local developing economy of Kenya, identifying the socio-economic impact of such expansion in terms of such external effects as technology transfer, linkages and entrepreneurship. The study shows how large scale MNC sector pushes out the small scale by encouraging 'taste transfer' or the redefinition of basic indigenous soap needs into demand for large scale MNC brand name products. Elsewhere, in his case study of MNC shoe production, Langdon shows that large scale MNC expansion and domination of the local market is secured by the lowered prices accruing from the advantages of large scale production, producing positive distributional effects on local consumers. Both case studies will be examined separately before some general conclusions are made about the study's findings.

Definition

Langdon uses a political economy approach to the analysis of the interrelationships between large scale MNC and small scale production. Though there were insufficient data to identify MNC subsidiaries, the operative definition of MNC subsidiaries was 'enterprise(s) in which it may be assumed that foreign corporations, centred outside Kenya, exercise substantial control ...' (p. 33). Small scale production was, on the other hand, defined by 'smaller local factories (with 3.30 employees and sales of K(enyan) Shs. 172,000/= - 2,500,000/= a year)' (p. 296).

Sampling Base and Measurement

With field research in 1972 and 1973, the sample population included all manufacturing subsidiaries employing over 50 workers as listed in the 1970 Register of Manufacturers in Kenya and 81 large MNC subsidiaries in banking, commerce, petrol distribution, agriculture, mining and advertising. Data on small scale, local soap and detergent production was based on a country-wide survey of 10 resident-owned soap enterprises and 3 MNC subsidiaries. The local firms drawn from the 1970 Register of Manufacturing Firms excluded enterprises which 'had ceased operation or regarded their soap production as a very marginal part of their overall activities' (p. 295). The footwear industry sample was based on two medium scale local firms, in Mombasa and Nairobi, two local firms subcontracting inputs to larger MNC producers, but particularly concentrated on information derived from a comprehensive survey of 45 smaller scale African shoe entrepreneurs in the Machakos district of Kenya (p. 313).

The Soap Industry

Size, Employment and Output

In 1972, the Kenyan soap industry extended to 18 firms, employing 756 persons, with the total industrial ouput, 26,379 metric tons of soap (p. 294), concentrated in 3 lines of production (laundry soap, detergent and toilet soap).

Capital Intensity

The differences between the production technologies of MNC and small local factories results in different scales of capital intensity between these firms. In the MNC sector the capital intensive nature of production is decided by non-price-competitive marketing strategies outlined by external head office MNC companies (p. 243). Production is split into five highly mechanised stages (p. 296). Local soap firms in contrast operate under more labour intensive conditions with some mechanisation in the mixing, soap drying, barshaping and cutting processes and to some extent package wrapping and barstamping processes (p. 297).

Growth and Profitability

A significant feature in the relationship between MNC and small local soap firms is that it is the MNC firms which expand and dominate other firms. As shown in Table 5.1, the effects of MNC expansion were more disastrous for non-mechanised firms whose expansion was blocked than for mechanised firms whose profitability was cut most (p. 308).

Table 5.1

Growth and Profitability Among Kenyan Soap Manufacturers, 1968-1976

Firm	Change in Value of Turnover, 1968 to 1972	After-tax Profit(Less) as Pct. of capital employed		Pre-tax Profit as Pct. of Turnover	
		1968	1972	1968	1972
Multinational Sector:					
- Largest Firm	+135%	29.3%	53.5%	15.1%	21.8%
Mechanized Local Firms:					
- Average for three	+128	9 to 12	(13)	n.a.	n.a.
- Firm A	+125	5 to 10	(20)	n.a.	n.a.
- Firm B[a]	+372	6.9	(4.3)	n.a.	n.a.
- Firm C	+ 51	15.9	3.9	n.a.	n.a.
Non-mechanized Local Firms:					
- Firm D	+ 67	n.a.	n.a.	8 to 10	8 to 1
- Firm E	- 41	n.a.	n.a.	8 to 9	6 to 7

---

a: Note that local firm B in the table spent a considerable sum on machinery in 1971, and moved from the non-mechanized to mechanized category. This helps explain its rapid growth in turnover from 1968 to 1972.

Source: Companies Registry, Kenya; and survey of local firms

(Source: Langdon 1976, 308)

'Significantly ... the only local firm to match MNC growth had to sustain losses in the process - while the MNC sector showed rapid growth and increased profitability' (p. 308).

Amongst the factors contributing to MNC profitability were its specific terms of market expansion and the favourable effects of large scale policy bias. Soap taxes levied, for instance, according to production quantity (Kenyan Shs. 25/= per 100 pounds produced of '"soap, soap extracts and substitutes thereof"' (p. 330) differentially affected MNC and local small scale soap prices and demand. Thus in Mombasa Island, the location of many local soap factories, it was noted that 'low-grade soap ... sold at Shs. 50/= per 100 pounds, so the tax would increase its price by 50%; while for "twelve dozen tablets of Lux (toilet) soap, which is equivalent to 30 pounds, the selling price is Shs. 87/=, but the excise duty is only Shs. 7/50, and the increase is less than 9%' (p. 332).

Wages

Wages in MNC soap production were considerably higher than those in local small scale soap factories. While the wages of local firms exceeded the legal minimum wages in Nairobi (K.Shs. 175/= per month), the average monthly wages of the MNC sector, K.Shs. 582/= per month, were nearly double the average for all local firms of K.Shs. 286/= (p. 306) (see Table 5.2 below).

Table 5.2

Soap Industry Average Wages Per Month for Production Workers, 1972
(Kenyan Shillings)

	Mnc Sector	582/=
	Average for Local Firms	286/=
A	- Local Nairobi Firms only	322/=
	- Local Mombasa Firms only	274/=
	- Local Firms outside Nairobi & Mombasa	212/=
	- Legal Minimum Wages in Nairobi	175/=
B	- Local Mechanized Firms only	299/=
	- Local Non-mechanized Firms only	245/=

Source: Interview with Firms, 1972/73

(Source: Langdon 1976, 306)

Structure of Production

In comparison with local non-mechanised soap factories, MNC firms imported an overwhelmingly high proportion of raw material inputs (75-90%), although local firms imported a not insignificant 40-50% of their raw materials. It was the choice of production techniques that resulted in local firms' dependence on foreign raw materials, since for instance:

> 'Ma(ch)ine-made soap uses far more tallow relative to vegetable oil than hand-made soap does, and since local supplies of tallow were more restricted than local supplies of coconut oil,

> mechanisation inevitably increased the import content of inputs. Thus local mechanised firms imported a percentage of raw materials of the same order (75-90%) as the MNC firms.' (p.302)

Because of a marketing strategy of brand name products, MNC linkages to the local economy were deliberately limited. This was a consequence of the particular reliance on foreign capital-intensive technologies and materials in the production of sophisticated brand name products of standardised quality. Here the importance of quality and style in the marketing of these products was apparently important enough to outweigh in some instances output considerations. 'Two firms surveyed, for instance, produced about the same amount of toilet soap - but the local firms used very labour-intensive packaging techniques, while the MNC firm's system was highly automated.' (p. 299)

The impact of this particular marketing strategy is also seen in some areas of MNC soap product manufacture where appropriate materials choices were sometimes a question of maintaining product style. MNC detergent manufacturing was a clearcut instance where local unavailability of phosphates, sodium sulphate and caustic soda inputs made MNC production necessarily dependent on external large scale industry supply (p. 301). But even where this was not so, as in basic laundry soap production, local inputs such as coconut oil, tallow, diatomite _et al_. were avoided for quality and style considerations.

Markets

Soap production in Kenya is undertaken by firms in the MNC sector, local mechanised firms and local non-mechanised firms operating in markets differentiated according to their product quality. The latter firms thus produce 'inferior', cheap products geared toward low income production and the first two 'higher' quality products. The higher quality image of the first two types of firms had largely to do, however, with the marketing image since some of the so-called inferior soap such as hand-processed laundry soap was functionally superior and had better quality ingredients (pp. 309-310).

For the local mechanised firms, the productive effort is geared towards competing with MNC production by attempting to produce similar products. In order to compete with the large scale MNC sector, local mechanised firms are forced to adopt large scale advertising techniques.

> 'Because of the difficulty of competing with the MNCs,they have to make an even wider range of products, colours, and sizes than the subsidiaries - with wasteful changeover costs ... to build up their turnover, they likely have either to do subcontract work for other international soap firms, who want to sell but not manufacture in Kenya's protected market, or to produce international brands under licence. In either case, they become subject to many of the same institutional production, purchase and marketing constraints as MNC subsidiaries, and start to generate foreign exchange flows abroad.' (pp. 310-311).

Apart from this, the limited access of local firms to the 'proved final product' markets of brand name product markets means that 'their best profit opportunities rested in vertical integration to cut costs in the particular branch of industry they knew well' (p. 303).

The strength of MNC market power proves a powerful force of contention too for non-mechanised firms who can only compete by production technique alteration and product rechannelling into the so-called 'better quality' soap markets. The strength of this market power is indicated by '... the strength of mechanisation pressure (such) ... that all six of the non-mechanised local firms surveyed had either ordered automatic machinery, wanted to do so, or saw no future for themselves if they could not do so' (p. 310).

The Shoe Sector

Size, Employment, Output

The overall size of the Kenyan footwear industry in 1972 consisted of 46 firms employing 1,311 persons and 220 individual shoemaking entrepreneurs (p. 313). The industry was dominated by large scale MNC producers, the largest of which produced 60% of the 6.7 million pairs of shoes produced annually in the country and employed 88% of the industry's labour force in 1972 (p. 313). The other MNC shoe producer, vertically integrated with leather tanning, had an output of 100-150,000 pairs annually by 1973 and employed 40 workers. A few other local firms had more than 10 employees in 1973 while most small scale enterprises were African enterprises with single entrepreneurs (p. 313).

Capital Intensity, Labour-Output Ratios

While MNC shoe manufacturing was generally highly mechanised, the actual degrees and organisation of capital intensive production varied between subsidiary sizes. Handling in the smaller MNC firm was, for instance, labour intensive, while in the larger MNC firm this was carried out through an automatic conveyor system between production steps and on nine assembly lines designed for different shoe sizes and shapes (p. 316). Capital intensive MNC production could yield labour saving results with favourable output records. Boot production through a new 'PVC' method of capital intensive production could thus yield 500 boots using two workers, where the older mechanised technique used 35 workers and only produced 800 boots (p. 316).

Wages

As in the soap industry case study, wages paid to MNC workers were found to be substantially higher than those in smaller scale firms. 'The large shoe subsidiary thus paid wage workers a minimum of some Shs. 500/= monthly, with average levels of Shs. 700/=, compared with wages paid Machakos employees ranging between Shs. 80-200/= per month.' (p. 320). Here, Langdon argues that these high MNC wage levels may be a product of the choice of technique, but also, importantly, represent an MNC effort to safeguard its production interests by carefully avoiding the possible wage-related motivations of strike action (p. 320).

Structure of Production

As in the soap industry case study, Langdon found that MNC backward linkages to the local economy in the shoe industry were limited by the reliance of MNC production on sophisticated, highly mechanised techniques of production resulting in the limited use of local material inputs (p. 216). In this instance,

> 'Using highly automated plastic injection machinery for shoe manufacturing, for instance, required imported plastic inputs rather than local leather.' (p. 216)

Here again, the combined impact of product choice (of plastic rubber footwear) and capital intensive production technologies implied that larger MNC subsidiaries produced more import intensive products than the small labour intensive Machakos district shoe enterprises (p. 317). These MNC subsidiaries, for instance, imported 50-60% by value of their material inputs and practically all machinery, 10% of which came from associates (p. 317).

Markets

Quality based market distinctions in shoe production, more so than in soap production, appeared to have some basis, particularly in the case of the attractive yet durable plastic sandals produced by a new 'PVC' method of production (p. 317). In this instance, the MNC sector drew the local market away from the small enterprises producing simple leather sandals and rubber tyre sandals by using price competition and offering a wider product variety. In this way MNC competition often forced a decline on these enterprises which 'often took the form of forcing those with the skills to manufacture shoes to retreat to a business based solely on repair ...' (p. 324).

While the MNC firms could produce low priced sandals at Shs. 5/90 per pair (p. 316), it is clear that in the shoe case an important aspect of the quality based non-price marketing strategy of the large MNC producer was related to its concern for its export orientation. Local small scale shoe enterprises were limited to the local Machakos district markets. By contrast, the large MNC shoe subsidiary exported 10-12% of its output outside East Africa. Quality control thus became an important aspect of the MNC draw on markets through the use of its parent company brand name and distribution network. Part of the MNC competitive marketing feature was as in the soap case induced by tax policy bias favouring large scale production. Thus, the lower priced MNC products were less heavily taxed than the comparatively higher priced goods of the other enterprises (p. 331).

Conclusions

Although the data on output and productivity within the soap and shoe branches and references to the limited number of small-large scale (subcontracting) linkages are scanty, nevertheless Langdon provides the basis with which to examine the various ways in which large scale MNCs pust out small scale enterprises through non-price competition. Significantly, the study concludes that socio-economic impact of MNC expansion and domination are to bypass the prospectively higher employment effects, better backward linkages and lower foreign exchange requirements of small scale production (p. 335).

SECTION SIX

TEXTILES

This section focussing on the textiles branch of manufacturing reviews four studies, each with its respective centre of interest in textile production.

This coverage includes: the carpet branch of textile manufacturing (Ayata 1979; Baykay 1977); the cotton/yarn weaving industry (Chowdhury 1981; Schmitz 1982); the hammock branch (Schmitz 1982); and, finally, the knitting/clothing branch (Reichmuth 1978; Schmitz 1982).

(A) Capitalist subordination of household production. Carpet industry: Turkey by Sencer Ayata. Discussion Paper for the BSA Development Group, 1979

Introduction

In this paper, Ayata examines the nature and mechanisms of capitalist subordination of household carpet weaving production in Turkey. Looking at dependent indirect producers operating as subcontracted carpet weaving producers and semi-dependent direct producers, Ayata finds that the penetration of capitalist production into traditional rural peasant carpet production through mechanisation of the industry has resulted in the dissolution of the traditional peasant carpet industry and the subsequent concentration of household production in the weaving branch of production. Both types of subsequently evolved household producers are subordinated into subsistence production by capitalist enterprises: dependent producers by their disguised wage relations with capitalist enterprises and semi-dependent producers by the relations of production in the raw materials end of the market. Included in the data in the study is information on output, employment, wages, costs of production and prices in the carpet industry.

Definition

Small carpet enterprises are considered to be those with 100 looms or less (p. 12). Ayata distinguishes between small 'direct' household producers producing in semi-dependent production, often selling directly to commercial shops, and indirect producers operating in subcontracted production for manufacturers through a system of intermediaries in a disguised wage labour relation.

Sampling Base and Measurement

The study is based on surveys and interviews of carpet weavers and dealers in Kayseri and Bünyan, Turkey (p. 1). From the text it is not always clear which sample town populations were used in certain contexts (e.g. size of labour force), but where possible note is made of such distinctions.

Table 6.1

CARPET PRODUCTION IN TURKEY

YEARS,	LOOMS	OUTPUT (m^2
1955	40.433	1,015.632
1956	46.323	1220 065
1957	51.878	1264456
1958	57.515	1466 792
1965	—	1871000
1970	80.000	2400000
1975	138.000	4 003425

1) figures for 1955, 1956, 1957, 1958 include only 13 Provinces out of total of 67.

Sources: 1) Union of Turkish Chambers (Carpetmaking in Turkey) 1959
2) State planning organization (weaving and clothing sector) 1976
3) M. Ozgirgin (Turkish art of Carpet Making) 1972.

(Source: Ayata 1979,29)

Growth in Size and Output in the Carpet Industry

Table 6.1 shows how the loomage capacity of carpet production in Turkey has expanded from 40,433 looms in 1955 to 138,000 in 1975, while output expanded nearly fourfold in this period.

Likewise in Kayseri the carpet industry sustained a growth in its loomage capacity from 7,000 in 1940 to 40,000 in 1970. This growth in loomage was also accompanied by increased specialisation and subsequent growth in the number of household producers. Whereas early production (1945) was characterised by the 'large scale' domination and control by 20 family enterprises, one of which owned 3,000 looms, by 1945-1970, the number of weavers had increased to 100,000 (p. 11). By 1970-1978, one third of the 40,000 looms were operated by semi-dependent producers (p. 12).

Labour Force and Sexual Division of Labour

The study states that almost half of the 120 households in the sample population were involved in the carpet industry. The sample shows that the household division of labour is such that women in the household are engaged as weavers for household carpet production, with other family labour including children as young as six to fifteen (p. 2, 8). Men work in the building industry (p. 2) and in Kayseri are also recruited as intermediaries for carpet manufacturers (p. 13).

Structure of Production

Ayata identifies two types of household producers in Turkish manufacturing those home weavers who operate under direct production for manufacturers as dependent producers under a system of subcontracted production. As disguised wage labourers, these producers receive advanced credits or bakshish and raw materials to produce finished products passed on to carpet manufacturers by superintendents or manufacturers' middlemen. Secondly, there are semi-dependent producers who by contrast own their means of production and final product (p. 19) but largely rely on carpet dealers to distribute and market their products independently or in collaboration with them.

Dependent producers appear to predominate in Turkish manufacturing: '70 per cent of the manufacturers mentioned that some members of their families weaved carpets for the town manufacturers' (p. 14), while only one third of the looms existing in Kayseri between 1970 and 1978 were operated by semi-dependent producers (p. 12). The marketing of exportable products produced by dependent workers is done by wholesalers on whom big manufacturers are dependent for non-Kayseri bound destinations (p. 22). These big manufacturers also subcontract work to spinning mills (p. 18).

Within the above framework of linkages in productive relations, Ayata however argues that: '... in (the) carpet industry there exists neither a separate group of merchants nor that of industrialists. The distinction pertains to operations rather than concrete (formally) defined enterprises. There is, at best, an incomplete differentiation of 'specialised' agents of capital; the predominant form being a quasi-mercantile and quasi-industrial enterprise.' (p. 23)

Ease of Entry and Capital Requirements

Entry requirements into carpet weaving are typically difficult and competitive since:

> 'To start up a business with thirty looms, two partners need ten to fifteen thousand dollars, an amount which is surely out of the immediate reach of a poor peasant household ... (which) typically consisting of 8 members would earn 7,000 dollars annually.' (p. 15)

In order to manage this, small (dependent) household producers buy raw materials on credit through long term credit arrangements from yarn dealers paying interest but avoiding deposits or formal guarantors 'provided that they know the manufacturer or one of his relatives personally' (p. 15).

Producers may also receive cash advances from wholesalers or by retailers from manufacturers (p. 15). This may take the form of bakshish or advanced wages for unfinished products selectively given for good craftsmanship and artistry (p. 18). Evidence was given of a case where a company distributed its 3,000 looms amongst its commissioners, providing the terms of easy entry for its beneficiaries (p. 16).

Table 6.2 shows capital requirements for entry in carpet production and indicates that just under a quarter of these capital costs are spent on equipment such as looms, scissors and combs.

Production Costs

The major portion of production costs in the carpet industry as seen from appendices 53 and 54 is taken up by wages, which form 35%-65% of total costs depending on the skill involved in the weaving quality of carpets (p. 16). Implement costs typically form a negligible 5% of total costs (refer to Table 6.2).

Raw materials costs in Kayseri are affected by a 25% premium on yarn prices. Kayseri's regional separation from spinning mills in the northwest has meant that yarn prices are influenced by the prices charged by small producers or yarn dealers acting as distributing middlemen (p. 18), which particularly affects small manufacturers and not those big manufacturers sending agents to purchase wool from wool dealers (p. 18).

Product Prices and the Distribution of Profits

From the evidence supplied, small manufacturers only receive a small fraction of profits received in carpet production, accumulation in the carpet industry being said to be concentrated in the hands of big merchants, manufacturers and yarn dealers (p. 22). The following illustrates the skewed nature of extraction of surplus:

> '... the small manufacturers sell a carpet for 650 dollars which costed them 500 dollars (a six square metre woollen carpet). In the wholesaler's shop the selling price goes up to 850 dollars with a 25 per cent increase on the manufacturers' price. The price for the same carpet reaches 1,300 dollars in the retailers' shop (in other provinces). Calculated on the basis of original costs the overall profit margins are as high as 80 per cent or even more including the costs of transport and necessary commercial expenses.' (pp. 18-19)

Table 6.2

CAPITAL REQUIREMENTS FOR ENTRY

ITEMS	NUMBER OF LOOMS	EXPENSES FOR ITEMS PER LOOM	EXPENSE FOR 30 LOOMS	AMOUNT THAT CAN BE PURCHASED ON CREDIT	NECESARRY CASH EXPENSE FOR 30 LOOMS
LOOMS	30	1500 T.L.	45. 000T.L.	22.500 T.L.	22.500T.L
SCISSORS AND COMBS	30	250. T.L.	30.000T.L.	15.000T.L.	15.000T.L.
WAGES (ADVANCE)	30	4200T.L	126.000T.L	——— .	126.000T.L
YARN (WOOL + COTTON)	30	3750 T.L.	112.000T.L	80.000T.L.	32.500T.L.
OTHERS	30	700T.L.	21.000T.L	10.000 T.L.	11.000 T.L.
TOTAL	30	11.133T.L	334.000 T.L.	127.000 T.L	206.500T.L

(Source: Ayata 1979, 30)

Wages

Wage rates amongst (dependent) producers were differentiated according to lower and higher wage areas generally divided along village/town lines (p. 17). The low wages in the carpet industry, close to the government minimum of 2.5 dollars per eight hour working day, were explained as a likely outcome of two factors:

1) 'The form of organisation of the industry, i.e. scattered production or reliance of the weavers on subsistence agriculture, as well as the character of the labour force, i.e. women and children' (p. 17);

2) the organisation of the industry in domestic units not covered by legal regulations (p. 17).

Table 6.3

WAGES IN CARPET INDUSTRY

Piece wage/ raw	7	Number of workers	3.5
Piece wage/ 6 m² carpet	8400 T.L.	Amount of labor time (hours of industrial working times)	360
Bakshises	500 T.L.	Wage per capita worker	2485 T.L.
Total individual labor time (hrs)	1036	Wages /8 hrs working day	64 T.L.

(Source: Ayata 1979, 33)

The earnings of semi-dependent producers are higher than those of dependent producers due to their ability to bargain for fees, either by setting prices for carpets or bargaining for prices themselves or through their yarn dealers (pp. 20-21). Even so, the returns to labour in semi-dependent production appear to be only 15% higher than wages in dependent production (p. 21). (See also Table 6.3 above.)

Conclusions

Ayata's case study of carpet manufacturing in Turkey thus shows that both dependent and independent household manufacturers are subordinated by the patterns of capitalist accumulation set up by the terms of their incorporation in the system of capitalist production.

(B) Technology and Employment. The Case of Turkish Manufacturing Industry by Özer Baykay. Doctor of Philosophy thesis, University of Durham, 1977

Introduction

As indicated in the title, Baykay examines the linkages between technology and employment in Turkish manufacturing. Of particular interest is his account of carpet production in Turkey, much of which corroborates the evidence provided by Ayata (1979). To avoid repetition, in the following account supplementary evidence on employment and output will be presented as well as diagrams of relations of production within the carpet industry.

The Turkish Manufacturing Sector

Employment and Output

Changes in the relative weight of establishments of different size, as shown in Table 6.4, show that small enterprises employing between 10 and 49 persons in aggregate absorbed more labour than successively larger enterprises between 1963 and 1968.

Table 6.4

CHANGES IN THE RELATIVE WEIGHT OF ESTABLISHMENTS OF DIFFERENT SIZE

Size by employment	Number of establishments	%	Number of employees	%	Output ('000 TL)	%
	1963 Census of Manufacturing Industry					
10-49	2,199	73,0	54,732	16.8	3,482,279	17.7
50-99	334	11,4	26,392	8.2	1,806,189	9.2
100-199	201	6.7	27,476	8.4	1,754,598	8.9
200-499	147	4.9	46,033	14.1	4,004,229	20.4
500-999	71	2.3	57,520	17.7	3,173,727	16.2
1000 +	60	2.0	113,297	34.8	5,414,642	27.6
total	3,012	100.0	325,441	100.0	19,635,664	100.0
	1968 Census of Manufacturing Industry					
10-49	2,161	64.0	49,568	11.8	4,957,230	11.0
50-99	560	16.6	35,985	8.6	3,560,692	8.5
100-199	270	8.0	39,595	9.4	3,431,580	8.2
200-499	217	6.4	69,552	16.5	9,408,770	22.4
500-999	94	2.8	65,409	15.6	7,234,692	17.2
1000 +	76	2.2	160,295	38.1	13,364,922	31.9
total	3,378	100.0	420,404	100.0	41,957,886	100.0

Source : SIS

(Source: Baykay 1977, 159)

Furthermore:

> 'The number of establishments in the 10-49 employee category decreased at a 3.1% rate during the 1963-68 period; the rate of decrease in the number of employees was 9.4%. Both the number of persons employed and the number of establishments within 50-499 and 1,000+ categories increased over the same period. An increase in the proportion of output contributed by the establishments in 200-499 and 1,000 categories is observed as well. The rate of increase of the share of employment was faster than output in the 200-499 category and slower in the 1,000+ category.' (pp. 159-160)

Given the evidence of gradually increasing mechanisation of production in carpeting as indicated by Ayata earlier, the output figures shown below give some general indication of possible trends in the carpet industry, although the data below do not include establishments with under 10 workers.

Small Scale Output

The output share of small establishments in value-added terms was 19.25% in 1950, 20.34% in 1960, and 18.50% in 1970 (p. 158). Amongst these small establishments, village industries had negligible shares in value-added terms with 4.43% in 1950, 12.09% in 1960 and 0.87% in value-added output in 1970 (p. 158). In fact most establishments with up to 199 persons tended to decrease their output share with the opposite trend true for larger enterprises, those with over 1,000 workers, for instance, which increased from 27.6% to 31.9%.

Table 6.5

ORGANISATION AND CAPACITY OF SMALL ESTABLISHING IN CARPET WEAVING (1965)

	number of looms	%	production (square meter)	%
a. Weavers in villages, at their homes, their own account				
i. those spinning the thread they use	20,031	24.9	182,713	9.7
ii. those buying the thread they use	13,793	17.1	281,077	15.0
b. Weavers for a merchant, at their homes in villages, sub-districts and districts	44,994	55.9	1,390,609	74.4
c. Workshops located other than home	1,358	1.7	16,740	0.9
d. Idle looms	360	0.4	-	-
Total	80,482	100.0	1,871,139	100.0

Source: SPO, Ad Hoc Committee Report on Carpet Weaving, Ankara (March 1966), p.6

(Source: Baykay 1977, 155)

Relations of Production in the Carpet Weaving Branch

Baykay's data on carpet weaving in Turkey, as shown in Table 6.5 above, statistically supports Ayata's description of the dominance of home-based production units. Producers as described here are largely 'weavers supplying merchants with spinning thread' (55.9%). Thus only 24.9% of the weavers are own-account workers spinning the thread they use and 17.1% own-account producers buying the thread they use.

The Structure of Production

Baykay identifies the 'putting out' system of carpet production organised through rural-urban integration in the industrial system. As shown in Fig. 6.1, the particular relationships of production between small and large are dependent upon the extent of penetration of modern technology.

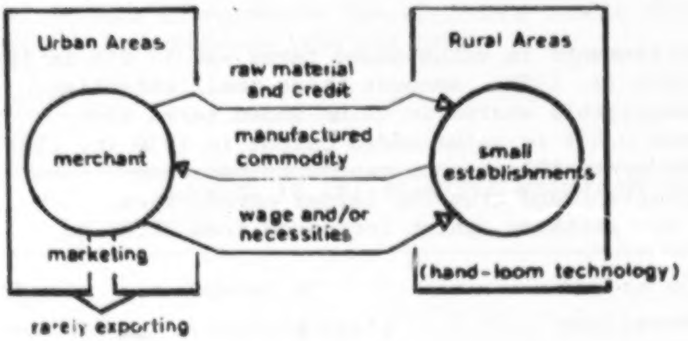


Fig. 6.1 The mechanism of the putting-out system

(Source: Baykay 1977, 156)

> 'In rural areas which are insulated from urban competition because of poor transport, marketing and differentiation in quality for localised demand, small establishments may maintain their independent existence. However left to the market mechanism, negative externalities of the modern industries on the traditional ones may arise through time.' (p. 156)

Markets

Technological transformation amongst non-factory establishments results in two types of productive organisation. Small enterprises can work under specialised production for factories, attempting to compete with other enterprises in small regional markets for short-run production runs or artisanally made products. Alternatively, competition from modern factories may force smaller enterprises to engage in own-account production of low cost, high quality methods of production (p. 157).

Profits and Accumulation

Product prices and profits for small enterprises are lower than under factory production (p. 156). The extraction of profits and control of the putting-out system in Turkey by middlemen is said to furthermore inhibit the ploughing back of small scale enterprise returns in enterprise development (p. 158).

Conclusions

Baykay's account of carpet weaving production, while corroborating the findings of Ayata regarding the general structure of production in the carpet industry, amplifies further the importance of the relationsof production with merchant capital. A particularly interesting observation made in the study relates to the increased viability of small carpet producers in rural isolated markets.

(C) A Study of Cotton Weaving in Bangladesh: The Relative Advantages and Disadvantages of Handloom Weaving and Factory Production by Nuimuddin Chowdhury. Doctor of Philosophy thesis, University of Cambridge (1982)

Introduction

In this thesis, Chowdhury examines the structure of the cotton weaving industry in terms of the relative size of the handloom and factory subsectors assessing the efficiency of the two methods of production in both subsectors. Chowdhury argues that differentials in economic efficiency between units are influenced as much by policy bias towards the large scale and large scale access to decision making centres of power as by technological distinctions (pp. 112-113).

Definition

The distinction between smaller scale handloom and powerloom units and larger mill units is based on differences in technology which also coincides with registration status. Handloom and powerloom units were thus 'marked by relatively simple technology ... mostly not registered with state agencies of any sort that implements the'minimum wages or other statutory welfare measures' (p. 255).

Sampling Base and Measurement

This study undertaken with sponsorship of the Bangladesh Textile Mills Corporation drew on two sets of sample surveys conducted between 1976/77: one of the handloom[3] and powerloom sectors, the other a near-100% survey of the mill sector.

Relations of Production

Employment, Output, Capital and Income

A comparative picture of the technological characteristics of the different weaving sectors, handloom, powerloom and mill, show considerable differences. As shown in Table 6.6, small handloom units compared unfavourably with the larger categories of these enterprises in many of the variables. Table 6.7 shows how technological measures for handloom units were considerably lower in terms of capital investment (variables 1 and 2), employment, sales, income per unit, as well as for capital-labour ratios (variables 6 and 7), than for their powerloom and in particular mill counterparts (pp. 139-140). Mills had mechanisation levels 11 times that of the handloom units; furthermore, 'while sale per mill is 190 times sale per handloom unit, the matched multiple concerning income is only 41' (p. 140).

Table 6.6

Comparative Technological Characteristics of the Sectors, 1976/7

(Rows 1-6 are totals; others are weighted means)

Particulars	Handloom Units 1-14 (looms)	 15+ (looms)	 All units	Powerloom Units	Mills Old mills	 New mills	 All mills
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Looms (Nos.)	508	570	516	119	2604	3652	6256
2. Fixed capital (Tk. mn.)	1.71	1.94	1.74	3.76	33.14	224.37	257.51
3. Total capital (Tk. mn.)	2.41	2.61	2.43	4.40	72.24	287.17	359.42
4. Employment (Nos.)	1056	768	1021	303	5022	8134	13156
5. Sales (Tk. mn.)	7.70	6.36	7.54	5.28	170.8	302.4	473.2
6. Income (Tk. mn.)	1.70	1.51	1.66	0.91	(-) 3.77	26.90	23.13
7. No. of looms/unit	5.6	21.8	7.6	11.9	372	215	261
8. Fixed capital/unit[a]	19.07	73.83	25.79	376.5	4.73	13.20	10.73
9. Capital/unit[a]	26.81	99.31	35.71	440.0	10.32	16.89	14.98
10. Employment/unit (Nos.)	11.4	29.5	13.6	30.0	717	478	548
11. Sale/unit (Tk. 000s)[a]	83.8	244.3	103.5	527.5	24.41	17.78	19.72
12. Income/unit (Tk. 000s)[a]	18.33	58.02	23.20	90.7	-0.54	1.58	0.96
13. Fixed capital/labour[b]	1.65	2.52	1.76	12.4	6.6	27.6	19.6
14. Capital/labour[b]	2.32	3.38	2.45	14.52	14.38	35.30	27.32

Notes: (a) The values of these variables are in mn. Tk. for the mills, while for the others they are in terms of thousands; (b) These values are in terms of Tk. thousands.

Sources: Data from the sample surveys.

(Source: Chowdhury 1982, 138)

Table 6.7

Technological Relativities between the Sectors, 1976/7

Particulars	Handloom units	Powerloom units	Mills
(1)	(2)	(3)	(4)
1. Fixed capital/unit	1.0	14.6	416.0
2. Capital/unit	1.0	12.32	419.5
3. Employment/unit	1.0	2.20	40.3
4. Sale/unit	1.0	5.10	190.5
5. Income/unit	1.0	3.9	41.4
6. Fixed capital/labour	1.0	7.04	11.2
7. Capital/labour	1.0	5.93	11.1

Notes: (a) For each characteristic, the average for the handloom sector as a whole is used as equal to 1.0, while the relativities with the other sector are estimated by comparison.

(Source: Chowdhury 1982, 139)

Employment and Family Labour

Employment rates in each category of enterprises per loom per shift was estimated to be 2.56, 1.66 and 1.17 respectively for handloom, powerloom, and mill weaving in 1976/77 (p. 259). An important aspect of the slightly higher labour usage in the smaller handloom and powerloom units appears to be their use of family labour. Handloom units, for instance, derive a substantial 45% of their labour from women and minors in certain jobs - winding, reeling, and warping '... sedentary, simple and repetitious jobs, cheaply done by these casual workers' (p. 258). Similarly, 30% of the labour force of powerloom units is also said to comprise women and children 'perhaps due to a lack of family adults to work as unpaid family hands' (p. 259).

Wages

A comparison of wages in the three categories of enterprises in parallel weaving, reeling and winding jobs, accounting for 70%, 62% and 50% of the total labour force within handloom, powerloom and mill units is given in Table 6.8 (p. 259). As expected, wage differentials are greatest between handloom and mill units, although fairly close to those between powerloom and mill units. Thus 'differential wage rates paid by the mills exceed the like rates for handloom units by between 79% and 170% (rows 1 and 3), and those for powerloom units by between 46% and 92% (not shown in table)' (p. 260). Such unit cost differentials as do appear between handloom and mill units are suggestively explained as the outcome of underpaid (family) labour usage in the handloom units (p. 258).

One important factor relating to wages is the terms of wage employment. Over four fifths of the small scale enterprises labour force were paid by piece rates, while 'virtually no hired worker in the handloom industry is in permanent employment' (p. 259).

Capacity Utilisation and Productivity

Tables 6.9 and 6.10 below show the levels of capacity utilisation and physical productivity of the sampled mills and handloom units. Between 1975/76 and 1976/77, average weaving utilisation fell from 41% to 36%, corresponding to a decline in workable loomage in operation (p. 273). Table 6.10 shows that successively larger units utilise their loomage capacity less intensively than smaller units (p. 278). Possible reasons given for this are that smaller units only install 'what they can hope to utilise reasonably fully' (p. 278). Utilisation levels of smaller units are further raised by their intensive use of cheap labour (p. 279). In Appendix 55 it is shown that adjusting for imperfections in differential yarn pricing and imports between mill and other units, handloom units still compete favourably for relative efficiency; handloom units are also found to show favourable output-capital ratios and net-surplus-capital ratios over and above powerloom units (p. 299).

Table 6.11 shows that mills have grown faster in loomage in comparison with the handloom sector (p. 304).

Turning to profitability between enterprises, measured in terms of the ratio of surplus to capital employed, Appendix 56 indicates that mills have negative surplus rates. The dominance of handloom units over powerloom units differs meanwhile according to the imputation for family labour costs:

Table 6.8

Wage Rates per Unit Time Worked in the Handloom, Powerloom and Mill Enterprises of Bangladesh Cotton Weaving Industry, 1976/7

(All values are Tk./48 hours)

Functions	Sectors		
	Handloom units	Powerloom units	Mills
(1)	(2)	(3)	(4)
1. Weavers	58 (100)	71 (122)	104 (179)
2. Reelers	36 (100)	50 (139)	95 (263)
3. Winding	37 (100)	52 (140)	100 (270)

Note:(a) The figures in parentheses are indices with the handloom figures as equal to 100.

Sources: Data from the surveys and Bangladesh, IWWPC, 1978.

(Source: Chowdhury 1982, 260)

(The wages figures assume an average work week of 48 hours. For mill units only wage calculations in the study excluded Sunday work and employed a 'method ... adjusting upwards usual earnings accruable in a week by a factor combining the impacts of wage equivalents due to statutory proviso' (p. 259).)

> ' ... if we assume that family labour has no opportunity cost at all, then handlooms appear to have a very significant superiority to the other two alternative techniques. On that assumption, in both years, the average rate of surplus for the handlooms is found to be about twice that for the powerlooms ... However, imputation for family labour cost ... changes the situation considerably. The handlooms now lose ground to the powerlooms.' (pp. 290-291)

Sources of Financing

As shown in Table 6.12 and Appendix 57, handloom and powerloom units have restricted access to institutional sources of finance compared to mills. 63% of initial capital investment for mills is generated through institutional sources, compared to less than 1% for handloom and powerloom units (p. 201). Similarly, the available data for handloom and powerloom units indicate that the pattern of non-institutional financing is reproduced for working capital (or expansionary capital sources).

Non-institutional credit sources form a particularly important source of financing for handloom units (refer to Appendix 57). 49% of the larger handloom units, for instance, were said to resort to non-institutional trader credits (p. 244).

Table 6.9

Weaving Utilisation of the Sample Mills, 1975/6, 1976/7

(All figures, unless indicated, are totals)

Particulars	Spinner-weavers		
	Old mills	New mills	All mills
(1)	(2)	(3)	(4)
Year: 1975/6			
1. Workable looms (Nos.)	2604	3561	6165
2. Looms in operation (Nos.)	2185	2662	4847
3. Row 2 as % of row 1 (%)	84	75	79
4. Capacity output, cloth (mn. yds.)	79.0	107.3	186.3
5. Cloth output in standard yds. (mn.)	30.0	46.0	76.0
6. Capacity output/loom (yds.)	30338	30132	30219
7. Output/loom in operation (yds.)	13730	17280	15680
8. Utilisation (%)	38	43	41
9. Row 7 as % of 6	45	57	52
Year: 1976/7			
1. Workable looms (Nos.)	2604	3652	6256
2. Looms in operation (Nos.)	1899	2560	4459
3. Row 2 as % of row 1 (%)	73	70	71
4. Capacity output, cloth (mn. yds.)	78.7	109.3	188.0
5. Cloth output in standard yds. (mn.)	25.1	42.7	67.8
6. Capacity/loom (yds.)	30223	29929	30051
7. Output/loom in operation (yds.)	13217	16660	15205
8. Utilisation (%)	32	39	36
9. Row 7 as % of row 6 (%)	44	56	50

Notes:(a) All measures of capacity assume 3 daily shifts and 300 days' operation per annum. All measures of cloth output are in terms of cloth of 54 picks per inch, which is the standard used by the BTMC to assess its performance in terms of absolute yardage. Utilisation is, throughout, output as % of capacity. For both years, row 6 is row 4 divided by row 1, while row 7 is row 5 divided by row 2.

Sources:Data from the sample surveys.

(Source: Chowdhury 1982, 276)

Table 6.10

Utilisation Levels of the Capacity of the Handloom and Powerloom
Sample, 1975/6, 1976/7
(All figures, unless indicated, are totals)

Particulars	Handloom units			Powerloom units
	1-14 looms	15+ looms	All units	
(1)	(2)	(3)	(4)	(5)
(A) Year:1975/6				
1. Installed loomage (Nos.)	516	524	517	119
2. Looms in operation (Nos.)	465	378	454	101
3. Row 2 as % of row 1 (%)	90	72	88	85
4. Capacity output, cloth, in standard units (mn. yds.)	1.77	1.95	1.79	1.14
5. Cloth output, standard units (mn. yds.)	1.28	1.10	1.26	0.86
6. Capacity output/loom (yds.)	3430	3721	3466	9580
7. Output/loom in operation (yds.)	2753	2910	2772	8515
8. Utilisation (%)	72	56	70	75
9. Row 7 as % of row 6 (%)	80	78	80	89
(B) Year:1976/7				
1. Installed loomage (Nos.)	506	570	516	119
2. Looms in operation (Nos.)	404	338	396	91
3. Row 2 as % of row 1 (%)	80	59	77	76
4. Capacity output, cloth, in standard units (mn. yds.)	1.72	2.06	1.76	1.14
5. Cloth output, standard units (mn. yds.)	1.05	0.90	1.03	0.73
6. Capacity output/loom (yds.)	3386	3614	3414	9580
7. Output/loom in operation (yds.)	2599	2663	2607	8022
8. Utilisation (%)	61	44	59	64
9. Row 7 as % of row 6 (%)	77	74	77	84

Notes:(a) As discussed in Ch. 3, handloom and powerloom yardage having various "densities" have been reduced to the same denomination using conversion ratios adopted by the BTMC for its cloth output having the same densities.

(Source: Chowdhury 1982, 277)

Table 6.11

Relative Rates of Growth of the Loomage by the Sample Units

Particulars	Handloom units			Power-loom units	Mills
	1-14 looms	15+ looms	All units		
(1)	(2)	(3)	(4)	(5)	(6)
(A): Sub-periods					
(i) Inception to 1969/70	7.5	16.7	8.6	3.4	11.5
(ii) 1969/70 to 1976/7	0.4	5.7	1.1	5.3	1.4
(iii) Inception to 1976/7	5.1	11.7	5.9	4.0	10.4

Notes: (a) We must emphasise that the handloom rates of growth relate to surviving units, and are therefore likely to be over-estimates of the growth rates within the sector as such. This is so because they take no account of the probably many units which had been set up sometime during the period(s) under discussion, but had not survived to the period of our survey.

Sources: Data from the sample surveys.

(Source: Chowdhury 1982, 305)

In this instance, the interest rates charged on these credits are biased in favour of smaller handloom units since the yarn dealers who largely provide such credit 'will have strong economic reasons for giving softer loans to the smaller weavers in view of their greater dependence on commodity-credit relative to the larger weavers' (p. 246).

Uses of Credit

The usage of credit between handloom and powerloom units as indicated in Appendix 58 vary. There is a marked tendency for larger units to use credit for investment purposes while smaller units use it for consumptive purposes. Four fifths of all the credit of the larger handloom and all of it from powerloom units is thus used for investment purposes, while 12% of small handloom credit is used for consumption (p. 247).

Raw Materials

Examination of production costs per yard of cloth produced by handloom and sample mills shows that yarn costs form a substantial 70% of production costs for both these units (see Appendix 59).

The two main sources of yarn supply are differentiated according to the respective loomage sectors. Handloom and powerloom units are reliant on yarn supply from intermediaries (p. 256), who are in turn reliant upon cotton supply from local farmers, with overlaps between farming and weaving schedules contributing to yarn scarcity.

Table 6.12

Sources of Initial and Expansionary Investment Funds for Small-Scale and Large-Scale Enterprises in Bangladesh Cotton Weaving Industry, 1976/7

(percentages)

Type of units	% of initial capital funded internally	% of expansionary capital funded externally	% of initial capital funded internally from			% of expansionary capital funded externally from		
			F/R	I	INS	F/R	I	INS
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Handloom units:								
(1) Small	80.2	79.7	2.6	15.9	0.6	3.3	16.5	0.2
(2) Large	77.0	74.4	6.8	14.2	1.8	10.2	14.7	0.6
(3) All	79.8	79.0	3.1	15.7	0.7	4.1	16.9	0.4
Powerlooms:	82.0	88.0	12.0	5.0	1.0	9.0	0.0	3.0
Mills:	37.0	n.a.	0.0	0.0	63.0	n.a.	n.a.	n.a.

Notes:(a) The symbols F/R, I, and INS. stand for friend/relatives, intermediaries at high rates, and institutional sources at preferential rates of interests.

Sources:Data from the sample surveys.

(Source: Chowdhury 1982, 201)

This particularly affects unregistered, smaller handloom units unable to receive the import licences for foreign yarn supply as easily as the mills, whose favoured access to import licences derives from its connections to the powerful Bangladesh Textiles Mills Corporation (BTMC) (p. 255).

Equipment

With smaller handloom and powerloom units there are far greater linkages with the local economy than the mills as regards equipment purchases. Appendix 60 shows that 93% of the mills' loomage equipment is imported. By comparison, three fifths of the loomage of powerloom units is built locally from the adaptation of capital goods (p. 239), over one third of their looms being built in used condition (p. 238). Smaller handloom units tend to have looms built for order, while the larger handloom units acquire a higher proportion of used looms (p. 238).

Markets

Generally, the three types of weaving enterprises produce 'for different groups of consumers and, for the same group of consumers, to meet different needs' (p. 260). Several factors contribute to this market segmentation:

firstly, preferential government policy, directing certain types of fabric production for handloom units (p. 261); secondly, the fact that by design of the state marketing corporation, the Bangladesh Textiles Mills Corporation (BTMC), handloom-made fabric is confined to old mills whose output is geared towards coarse cheap sarees for the lower income population (p. 265).

The net result of this segmentation is that competition between the three different types of weaving units is limited to a few items.

Relative cloth prices (see Appendix 61) are less an indication of cloth costs than the political decision making of the BTMC price fixing authority.

Conclusions

This study shows the importance of government policy bias in the dominance of large scale industry. Preferential supply factors to large scale mills contributed to its favoured output performance, while evidence shows the 'intermediary' position of the larger handloom and powerloom enterprises in the productive sector. Although smaller enterprises were seen to be more efficient, it was the technological organisation of the larger units, in particular the mills, which led to better output performance amongst these latter units.

(D) Dualism in Peru: An Investigation into the Interrelationships between Lima's Informal Clothing Industry and the Formal Sector

by Markus Reichmuth. B.Litt. thesis, University of Oxford, 1978

Introduction

This thesis examines the nature of the relationships between formal, large and small scale production units and the informal sector small scale production units in the clothing branch of the manufacturing sector in Lima, Peru. The contextual background to this analysis is the changing economic conditions at the urban and national level and the differential effects of the policy environment towards categories of enterprises at the level of aggregate demand. In particular, Reichmuth tests out the hypothesis that the importance of competitive relationships between formal and informal sector enterprises increases in times of declining aggregate.

Definition

Using a dualist labour market distinction, Reichmuth isolates one of the criteria identified in the ILO Kenyan Report, unregulated and unregistered markets, as the only characteristic distinguishing informal sector enterprises applicable to the Peruvian context (pp. 37-44). Reichmuth divides the labour market into 4 categories: small scale informal sector (SIS), advanced informal sector (AIS), small-formal sector (SFS), and large-formal sector (LFS) enterprises. The distinction between 'advanced informal sector' and small informal sector enterprises is based on the accumulation potential and expanded production evidenced in the advanced informal sector.[4]

Sampling Base and Measurement

The large scale sample was based on a 10% random sampling procedure which reached a total of 10 responding establishments (p. 219). The small scale sample was based on a list of enterprises reporting to the Ministry of Industry and other industrial institutions and in the telephone directory (p. 219). The study also contacted producers at concentrated production peaks according to a systematic random sampling procedure (p. 220).

Description of the System of Production in Manufacturing Sector and Textiles Branch

The textiles and clothing branches both experienced favourable growth levels between 1968 and 1973, thereafter declining. However, textiles appears to have grown less than other industrial branches (see Appendices 62 and 63).

Sectorial Share of Small Scale (Traditional)

The sectoral distribution of employment in the artisanal sector of Peru, as shown in Appendix 64, indicates that textiles, clothing and shoe production comprised 58.8% in 1970, falling to 31.8% in 1973. Some 170,000 producers employed in traditional clothing production (including rural traditional and the urban informal sector) accounted for 39% of the manufacturing labour force in 1973 and 88% of total employment in the clothing industry (p. 94).

The structure of the clothing industry of Peru and Lima, as shown in Table 6.13 and Appendix 65, indicates that small scale informal sector enterprises outnumber the other three categories of enterprises (LFS, SFS, AIS) both in terms of the total number of enterprises and in their employment share. In 1973 there were 100,000 SIS enterprises employing 157,000 persons (see Table 6.13 below). Within Peru, Lima controls a substantial share of clothing production with 88% of LFS enterprises, 52% of combined AIS and SFS enterprises and 36% of small informal enterprises.

Table 6.13

Size of Formal and Informal Subsectors in

Peru's Clothing Industry, 1973

	No. of establishments	Labour force
SIS	100,000	157,000
AIS[a)] SFS	7,600	28,000
LFS	115	8,000

(Source: Reichmuth 1978, 90)

Productivity

Productivity differentials between the 1-4 and the 20+ size strata of textiles enterprises were more than sevenfold (p. 85). These differences largely reflected technological distinctions (e.g. simple technology in small scale knitwear production) (p. 85). However, in some areas (e.g. shirts and trousers) marked by an absence of automation what labour differentials that exist, Reichmuth explains, are due to market limitations of small informal scale production (p. 159). Appendix 66 shows that amongst small scale sector enterprises in Peru labour productivity levels in the 1-4 stratum in the clothing industry sometimes exceeded the average levels in the largest firms (p. 160). (See also Appendix 67, showing employment, output and productivity indices for informal enterprises.)

Wages and Income

In terms of general comparison between branch earnings of informal and formal labour in Lima, the study found that:

> '...average earnings of a substantial part of informal clothing producers were above that of an equivalent activity in a formal sector job at its start (in April 1976). Informal wage labour, on the other hand, earned 37% less than in a formal sector job at its start.' (p. 147)

Amongst formal sector producers in Lima, Reichmuth found that independent producers held a strong market position compared to subcontracted producers since they largely determined their prices according to their labour costs and product quality (p. 125). These comparative conclusions are supported by Appendix 68 which shows production and net income between various independent and dependent producers in Lima's informal clothing industry.

Structure of Production

Within Peru as a whole and Lima in particular, subcontracting is an important intersectoral linkage. Three quarters of all subcontracting within major informal industries (as measured in the 1973 manufacturing census) appears in clothing production (p. 87) (see Appendix 69). The same census document estimates that subcontracting dominates 70% of the aggregate output of industrial parent firms in all branches in Lima and over half that in the country's clothing industry (p. 89).

Most typically, it was the smallest enterprises which were least likely to be independent producers and operated under subcontracting relationships (p. 87). 63% of the output in the 1-4 stratum of clothing enterprises in Lima was thus directed to parent firms compared to 5.2% in the 20+ stratum (see Appendix 69). Large industrial clothing firms producing primarily for the export market supplemented their output mostly from small formal producers to ensure quality production for brand name products and on a few informal enterprises. In order to avoid intermediary commerce (p. 115) these producers employed their own comisionistas or distributor agents. The separation of the large scale industrial and commercial sphere led to subcontracting of the latter enterprises with small formal and informal sector producers.

Most typically it was the small formal producers to which small informal enterprises were subcontracted.

The large orders of independent wholesalers were also an important market source for small formal producers. Meanwhile these wholesalers also functioned as suppliers of textile articles for over two thirds of the ambulantes (street vendors) in 1976 (p. 115). Small informal commercial enterprises marketing small quantities to ambulantes or registered shopkeeper/retailers in low-income areas, therefore, only distributed a small portion of output (see pp. 114-117).

Marketwise the productive structure was segmented. The large formal sector was said to dominate the market for high quality cloth; with both large and small formal sector enterprises dominating the market for knitted cloth. (Thus in 1973, 6 of the large scale enterprises controlled 35% of gross output of woven material (p. 103).) The largest knitting enterprises in the same year contributed to 25% of gross output (p. 103). Since small and advanced informal sector enterprises produced inferior weaving and finishing (despite the mechanisation of the latter enterprises), they catered largely to low income markets (p. 138).

Backward Linkages

Within the clothing industry Reichmuth found a limited degree of skill transfer between formal and informal sectors. Capital transfers between parent and subcontracted firms were an important part of intersectoral linkages. (Appendix 70 shows the structure of operating and general overhead costs facing small producers and indicates the importance of raw material transfers.)

Markets and Competition

Reichmuth shows how changing policy measures made in response to the eocnomic climate influenced the terms of market competition between large formal, small formal and informal sector enterprises. Government policies directed towards the promotion of basic, capital goods industries producing non-luxury products (in the General Industries Law, 1970) could promote general economic growth and encourage the development of (registered) textiles and clothing industries through favourable tax and tariff measures (p. 181). During the 1974-75 period, however, favourable levels of economic demand and non-regulation of price controls in the small scale production and commerce market provided advantages for the informal enterprises. Complementary relationships thrived in an expanded market with high levels of aggregate demand. When the market contracted (from 1973 onwards), particularly after devaluative policies of the 1976-78 period, it resulted in the development of competitive relationships between enterprises (p. 199, 209). Large formal producers competed with small formal producers in certain product lines (e.g. trousers and ladies' dresses) (p. 204). At the same time, small formal producers also infiltrated the street trading market usually reserved for informal producers (p. 208).

Constraints

In terms of constraints, Reichmuth argues that it is indirect interrelationships such as labour surplus, lack of access to certain production inputs and markets which constrain the growth of the informal sector. Here, he argues that these constraints are related above all to the size scale of the enterprise which creates the low credit ratings and unfavourable rates of exchange that produce the above circumstances (p. 139).

Conclusions

Although Reichmuth uses the dualistic distinctions between formal and informal sector production, nevertheless his emphasis on the relationship between the two sectors allows him to examine many of the pertinent issues relating to the constraints on informal sector growth. A particularly relevant contribution relates to the dynamics of competitive and complementary relationships between enterprises.

(E) Manufacturing in the Backyard. Case Studies on Accumulation and Employment in Small Scale Brazilian Industry by Hubert Schmitz. Frances Pinter, Allanheld, Osmun Publishers, London, New Jersey, 1982

Introduction

Schmitz, in this book, examines the employment and income effects of small scale as compared to large scale urban enterprise development, identifying the particular constraints on expansion and accumulation facing smaller enterprises in three branches of Brazilian industry: the knitting and clothing, hammock, and weaving branches of the textile industry.

Definition

Schmitz's analysis effectively incorporates a pcp framework of analysis of the system of production.

Sampling Base and Measurement

The data for the knitting industry case study derived from 3 large firms employing more than 100 workers, 5 medium firms with between 1 and 100 workers (mostly between 11 and 50 workers), and 5 small firms with less than 10 workers. Additional information was collected from a major machinery supplier and unregistered enterprise[5] (p. 64).

The sample for the hammock study drew on unregistered and registered enterprises within the hammock branch including 8 domestic hammock enterprises (7 clandestine and 1 registered), 8 capitalist enterprises with more than 10 workers and other contacts working with the distributive sphere (producers, yarn/machine dealers etc.). Interviewing for the study was conducted in Fortaleza between July 1978 and November 1978 (see Schmitz 1979, 9)[6].

All but two of the twenty firms in the sampling base of the weaving industry of Americana were randomly selected from a register of firms according to their size stratification. The sample included 6 independent firms with more than 100 workers (2 of these being large scale international firms), and 14 producers who were or had been in the past subcontractors (p. 124).

Description of the System of Production in Branch

Size

Official estimates of the overall size of the textiles and clothing industry in Brazil (provided in Appendices 71-74) are prone to underestimation and inconsistencies (p. 58); however, they do provide an estimate of the overall size of the industry and some of its branches. According to these figures, total employment in the industry expanded between 1950 and 1970. Taken together, textiles including weaving and hammocks and clothing 'account for the highest share (16 per cent) in industrial employment' (p. 56).

The Knitting Industry of Petropolis

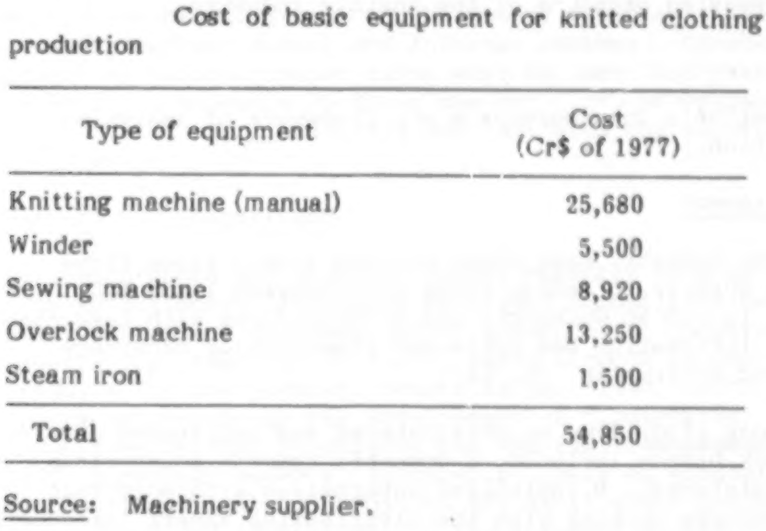
Labour Force

The labour force in the knitting industry is comprised predominantly of family workers, with women particularly important in the setting up and organisation of small scale firms (p. 67). Included in this family labour force are children and retired family members working under extended hours of production according to their age capability.

Ease of Entry and Capitel Investment

Entry into this branch of production is enhanced by the divisibility of the production process, coupled with the relatively low capital requirements. The latter amounts to cruzeiros (CR.) $55,000 (U.S. $ 3,600) for the total of 5 machines required in the knitting process (see Table 6.14 below).

Table 6.14



Cost of basic equipment for knitted clothing production

Type of equipment	Cost (Cr$ of 1977)
Knitting machine (manual)	25,680
Winder	5,500
Sewing machine	8,920
Overlock machine	13,250
Steam iron	1,500
Total	54,850

Source: Machinery supplier.

(Source: Schmitz 1982, 68)

As pointed out by Schmitz, however,

> 'This investment can be considered low in relation to the investment necessary to establish oneself in other industrial branches, but it is high for someone who earns one to two minimum wages, even if the amount can be reduced through the purchase of secondhand machinery.' (pp. 67-68)

Production Costs and Profits

The different cost structures and profits facing medium and small scale firms are related to the way in which the structure and relations of production affect these firms. Table 6.15 shows small producers pay up to 30% more for raw material costs than medium-sized producers (p. 77). At the same time their selling price is reliant upon the cost structure of their medium-sized firm outlets.

Table 6.15

Cost comparison of medium and small-scale knitting enterprises (percentages)

Production costs	Medium-sized enterprise	Small-scale enterprise
Raw material	50	65
Labour	25	35
Overheads	25	
Total	100 excluding profit	100 including profit

Source: Interviews with producers.

(Source: Schmitz 1982, 77)

Under the circumstances of a cost structure where 65% of input costs are for raw materials and 35% for labour and overheads, the small producer profits by avoiding social security and tax payments and largely avoiding labour costs (except in busy periods) through the use of the nuclear and extended family.

Even with the labour cost savings implied by these firms' utilisation of family labour and tax dodging, profit levels are reliant on the conduciveness of competitive market conditions to reasonable selling price levels (p. 78). In comparison with smaller enterprises, medium firms fare better with profit margins between 20% for retail sales and 50% for consumer sales (p. 77).

Productivity

Table 6.16 shows differences in productivity relating to technological differences between manual and mechanised methods of knitting production. Labour productivity on a manual 'machine' is between 6 and 10 times lower than its respective motorised and automated counterparts' (p. 69).

Table 6.16

Performance of knitting machines

Type of machine	Price (Cr$ of 1977)	Number of machines per worker	Machine efficiency	Labour productivity
Manual	25,680	1	15	15
Motorised	36,400	3	30	90
Automatic	74,200	5	30	150

Source: Machinery Supplier.

(Source: Schmitz 1982, 70)

Wages

In the knitting branch, small producers are said to earn better wages than the marginal wages paid in larger enterprises. Within the branch, however, wages are differentiated according to jobs performed: the few skilled designing jobs available on shopfloors were the best remunerated, paying between 10 and 20 minimum wages (p. 68); sewing machinists in the large enterprises earned one and two minimum wages, and a knitting machine operator between 3 and 4 minimum wages (p. 66).

The Nature of Subcontracting

A machinery supplier interviewed by the authors provides a description of the subcontracting process.

> '... they (producers) buy a small knitting machine, make a garment and then take it to their neighbour to have the edges oversewn on the overlock machine; they pay (the neighbour) CR.$3 to CR.$5 per garment, and the rest they do by hand. Once they've got a bit of money put by, they get an overlock machine and then things get better, because as well as doing their own work, they can do it for others too.' (p.68)

In order to enhance self-sufficiency in the production process, these producers either adapt equipment to carry out several instead of more limited functions, or improvise, using simple irons and sewing machines (p. 69).

Credit and Raw Materials

The unwillingness of small producers to risk exposure through invoiced sales and the minimum sales policies of large yarn spinning mills together result in many small producers existing at the mercy of intermediaries who charge 25-30% or even 40% higher than large scale suppliers, particular in times of scarcity (p. 74).

In the context of the above structure of production the market for subcontracted garment products ranges from intermediate or finished goods supply to other small workshops, medium-sized firms and small retail shops. Medium-sized firms and small (commercial) shops are the most common outlets for this subcontracted production, although there is some small supply to boutiques and less so to consumers. Medium-sized firms in turn sell their 'output' to retail shops or wholesalers over the counter (p. 75).

Competition and Markets

Schmitz, noting that complementary and competitive relationships between large and small scale enterprises exist, observes that the extensive distribution networks of larger firms allow them to dominate the more 'predictable' markets and leave the 'leftovers' to small and medium-sized firms (p. 75).

The Hammock Industry of Fortaleza

Employment

Employment in the hammock industry as indicated from official statistics (Appendices 75-77) puts the overall size of the industry at approximately 224 enterprises in Brazil, 69 of which are in Ceara State, 38 in Fortaleza (Appendices 75 and 76).

Women in the hammock branch in Fortaleza (Appendix 77) account for a substantial 52.5% of the labour force while corresponding figures for women's employment in hammock making for Brazil as a whole and Ceara were 79.4% and 70.6%.

Production in capitalist enterprises based on wage labour	
Production in subcontracted domestic workshops based on family labour	Finishing of hammocks carried out by women, children and old people at home
Production in independent domestic workshops based on family labour	

Fig. 6.2 Structure of hammock production, Fortaleza
(Source: Schmitz 1982, 84)

The Structure of Production

Hammock production as seen in Fig. 6.2 above is organised under two types of enterprise: capitalist enterprises predominantly operating with wage labour, particularly smaller enterprises employing between 10 and 20 employees; and domestic workshops, operating on a subcontracted or independent basis with the help of family labour. Subcontracted enterprises are, however, considered part of the external labour force of capitalist enterprises, and supplement the internal (wage) labour force of capitalist enterprises. Non-registered workers were found especially in smaller enterprises with 10-20 employees.

Type of enterprise	Internal labour force		External labour force	
Capitalist enterprise	Wage labour		Home workers	Labour of subcontracted workshops
Domestic workshop	Family labour	Wage labour	Home workers	–

Fig. 6.3 System of production, Fortaleza
(Source: Schmitz 1982, 100)

Fig. 6.3 shows the relations of production in both capitalist enterprises and domestic workshops.

The Structure of Production

Yarn production is dominated by large textile producers who sell yarn unconventionally spun with recycled waste products collected and supplied from other textile factories (p. 92). While larger producers receive yarn directly from large spinning mills, small unregistered producers for reasons similar to those in the knitting industry are reliant on intermediaries for yarn supply (p. 91).

Two alternatives arise in the handling of small scale hammock production: the subcontracting of work directly to domestic workshops or the use of a system of intermediaries or 'leaders' who direct the collection, distribution and payment for particular production processes farmed out by capitalist enterprises. One producer, for instance, subcontracted through an intermediary to 100 women scattered over a wide area.

Capital Investment

Low capital equipment costs make for relatively easy entry in hammock production. The costs of looms and accessories such as metal combs and shuttles were said to be between CR.$5,000 and CR.$6,000, putting the total initial capital investment for a small 'backyard' workshop, with three looms at CR.$20,000 (p. 91).

Raw Materials

For many small producers, obtaining the yarn supply to continue hammock production appears as a major constraint facing hammock producers. The problem is threefold: small producers dependent on intermediaries for the supply of their raw materials pay for the consequences of this dependence in higher prices. Even registered independent producers receiving raw materials directly from large producers pay CR.$6 and CR.$8 more than large producers per kilogram of yarn supplied (p. 91). Small independent producers are also more vulnerable to price increases, and are unable to avoid the irregularities of supply through bulk supply (p. 91). Lastly, the high 75% proportion of raw materials in the production costs of standard hammocks means that working capital is a major constraint for workshops (p. 91). The working capital needs of a small workshop with 3 looms and a daily production of 30 hammocks, for instance, was put at CR.$90,000 (p. 91).

Tables 6.17 and 6.18 show the comparison in profits between independent small scale producers and large scale independent producers.

Wages

Wages in the hammock industry are reportedly low, the highest wages being offered to ' the competitively more skilled weavers' within this branch. Compared to the minimum wage (May 1978 - April 1979) of CR.$1,111 per month, the weavers are 'all on piece-work and earn between CR.$300 and $500 per week, the average being $400 on the basis of 44 to 48 hours a week'.

Markets and Competition

The hammock market is as elsewhere differentiated according to luxury and quality distinctions segmenting the market along income lines: the low income market for standard hammocks for sleeping purposes and the higher income market for 'luxury' decoratively fringed hammocks sold primarily to tourists and on export basis as well as to the local rich (p. 94).

Table 6.17

Costs and profit in small hammock enterprise

(in Cr$ of 1978)

1.5 kg of yarn (no.8)	75
labour	30
= costs of production	105
+ profit of 10 per cent	10
= selling price	115

(Source: Schmitz 1982, 95)

Table 6.18

Costs and profit in large hammock enterprise

(in Cr$ of 1978)

1.5 kg of yarn (no.8)	65
labour	40
= costs of production	105
+ profit of 25 per cent	26
= selling price	131

(Source: Schmitz 1982, 98)

The market strength of the standard hammock is based on its use as a basic sleeping necessity for 90% of the Northern Brazilian population, and other neighbouring states (p. 94), albeit limited by the purchasing power of the market. Small producers can, however, share in the luxury market through artisanal production.

The Weaving Industry of Americana, São Paulo

A distribution of enterprises in the textile industry of Sao Paulo state according to the relative shares of investment per enterprise size category of enterprise in Americana and other urban locations shows that most of the textile firms in Americana are small enterprises concentrated in the 'up to CR.$100' investment category (Appendix 78). However, it is the independent large scale category of producers who absorb more labour overall than subcontracted and part-independent and part-subcontracted production, employing 11,293 workers overall compared to 2,601 and 1,235 in other firm categories (see Table 6.19 below). (See also Appendix 79).

Technology and Capital Investment

The weaving branch of Americana is an area of technological change, which has resulted in the mechanisation of small weaving production. According to Schmitz, technological change in the weaving industry, while implying the

the deskilling of labour in modernised enterprises, has stimulated a reversal in the normal flow of skill transfers from large (independent) to small subcontracted enterprises, to a flow from small to large enterprises (p. 148) (cf. Hakam 1978).

Table 6.19

Workers in independent and subcontracted firms in the textile industry of Americana according to size of firm, 1975

Type of firm	Size of firm according to number of workers							
	0-4	5-9	10-49	50-99	100-199	200-499	500+	Total
Independent	9	94	119	704	1833	2791	4943	11293
Subcontracted	458	609	1238	296	-	-	-	2601
Part-independent/ part-subcontracted	5	22	543	118	437	-	-	1235
Total	472	725	2600	1228	2270	2791	4943	15129

Source: Universidade Estadual de Campinas, Cadastro Industrial da Sub-Região de Campinas 1975-76, Vol. 1.

(Source: Schmitz 1982, 129)

Capital Investment

Usually the investment by small weaving producers in this branch is spent on secondhand mechanical loomage machinery, automatic loomage machinery being too expensive for subcontractors. Secondhand machinery loomage equipment more usually bought by subcontractors is costed at CR.$42,000 or 'the equivalent to around eight months' wages of a weaver employed by an independent firm' (p. 137). These initial investment costs would include: four mechanical looms at CR.$10,000 each or CR.$40,000 including all necessary accessories, in addition to a mechanical winder costed at CR.$2,000 (p. 137).

Labour Productivity

The compromise for the small subcontractor/producers' use of mechanical loomage is lower levels of labour productivity. Both the speed of automatic looms and the greater loomage per worker allowed implies a doubling of labour productivity per worker (p. 144). 1 weaver can, for instance, operate 10 automatic looms compared to 4 or 5 looms per worker in the majority of mechanical looms (p. 144).

Wages

Within textile firms wages are apparently low enough to motivate labour movement to subcontracting. Wage labour between independent and subcontractor/ firms also fare better in the former, where they can earn up to twice as much as in subcontracted firms. Weavers in a subcontracted firm earn CR.$3,000 and CR.$4,000 based on a 10 hour working day, compared to CR.$5,000 and CR.$6,000 monthly working 8 hours daily for an independent firm (p. 141). (See Table 6.20.)

Table 6.20

Monthly outgoings of a small subcontractor

(in Cr$ of 1979)

Rent of workshop[a]	2100
Wear and tear of machines (spare parts, repairs)	700
Electricity	2000
Accountancy	1200
Wage for one weaver	3600
Wage for one auxiliary worker	2200
Social security payments, thirteenth monthly wage and other costs incurred for two employees above	2900
Threader	600
Owner's health insurance and pension fund[b]	1300
Total	16,600

Notes:

a. This does not include living quarters.

b. While this constitutes a benefit to the owner, it should be included under costs to make the subcontractor's income comparable with an employee's wage.

(Source: Schmitz 1982, 142)

Wage differentials between owners and labourers in subcontracted firms vary according to firm size. According to the cost structure in Table 6.20 above, Schmitz estimates that a subcontractor would 'earn(s) around CR.$9,000 which is 50 per cent more than the wage of an employed weaver and the same as the wage of a foreman ...' He further adds that: 'If, however, we consider all the benefits which the employee receives but which the subcontractor foregoes (e.g. paid holidays, thirteenth monthly wage, guarantee fund) and consider his longer working hours, he is only slightly better off than the employed weaver and falls behind the foreman' (p. 141).

By comparison, the income of a producer with only four looms and 1 worker would also apparently fall behind the weaver's wage unless the subcontractor owns the workshop and enlists the help of family members (p. 142). Family labour, as Schmitz points out, is not necessarily unpaid wage labour, the crucial determinant being whether the labour is external to the immediate household (p. 141).

Table 6.21

Independent and subcontracted firms in the textile industry of Americana according to size of firm, 1975

Type of firm	Size of firm according to number of workers							
	0-4	5-9	10-49	50-99	100-199	200-499	500+	Total
Independent	10	14	40	10	13	9	6	102
Subcontracted	281	93	80	5	-	-	-	459
Part-independent/ part-subcontracted	2	3	20	3	3	-	-	31
Total	293	110	140	18	16	9	6	592

Source: Universidade Estadual de Campinas, Cadastro Industrial da Sub-Região de Campinas 1975-76, Vol. 1.

(Source: Schmitz 1982, 128)

Structure of Production

Production in the textile industry of Americana as shown in Table 6.21 is essentially numerically dominated by subcontracted production by small producers with under 5 workers.

Subcontracting

Typically, subcontractors have backward equipment linkages with other independent or subcontracted firms or secondhand dealers from whom they buy secondhand machinery. Raw materials such as cellulosic rayon are ultimately derived from powerful large scale yarn producers, and passed on by intermediaries to either registered or unregistered subcontractors, subcontracting on a full/part time basis as part-time subcontractor/independent producers. The intermediaries thus act as agents of commercial capital providing credit in the form of raw materials in exchange for woven cloth. Some of the primary subcontractors will then subcontract out to other producers depending on the range of their machinery investments (pp. 133-134). So described the backward linkages of one producer are the forward linkages and market prospects of another.

Conclusions

Schmitz, in his book, identifies the very different sets of constraints which prevent the expansion of small scale enterprises within subsectors of the Brazilian textile industry. These include not only internal constraints such as motivation and drive, but far more important the wide diversity of external constraints ranging from access to raw materials, and credit through to problems of government discrimination which affect small scale enterprises.

SECTION SEVEN

GENERAL MANUFACTURING

This section looks at De Coninck's cross-section study on petty producers in Uganda, which includes 3 case studies in the manufacturing sector of production.

(A) Artisans and Petty Producers in Uganda by John De Coninck. Doctor of Philosophy thesis, University of Sussex, 1980

Introduction

This thesis examines the prospects for growth and accumulation of petty commodity producers in the social and economic context of petty commodity production in Uganda. In so doing, it looks at the insertion of this form of production into the economy and its articulation with the dominant capitalist mode of production. De Coninck argues that petty commodity producers can only operate in a subordinate and dependent manner to large capitalist producers since they are forced to operate largely in unprofitable low income markets and therefore compete with larger capitalist enterprises through the exploitation of cheap, apprenticed labour (p. 19). Informal artisans and petty producers can, however, complement capitalist production by using flexibility in rapidly adapting their production to changing market conditions (p. 19). Included in this general study are small case studies of the shoe, metal furniture, enamelware and hoe manufacturing industries.

Definition

The study uses a pcp framework of definition and analysis of small scale production.

Sampling Base and Measurement

The study was based primarily on a cross-section survey of 160 artisans and petty producers employing between 0 and 10 people in 4 selected areas in Uganda - (1) Kampala; (2) Jinga Town; (3) Kigezi District; and (4) Teso District - also drawing upon information from the Kisumu area, Kenya, for comparative purposes.

The sample population, for the most part, included those in manufacturing or service activities excluding food processing (p. 30). The survey, conducted between 1973 and 1975, used a non-random basis of selection of cases. Small sampling quotas representatively corresponding to the distribution of enterprises in each geographical area were chosen, taking into account size, occupation and location (p. 31). As a complement to its survey of small scale units, the study looks at former small scale units that had successfully expanded 'into large scale production particularly in Kampala' (p. 32).

Description of the System of Production

The Manufacturing Sector

The general pattern of employment and output in the manufacturing sector provides some indication of the domination of large scale manufacturing.

In 1968 11.7% of manufacturing enterprises employing 100 or more people had 61% of the employment in this sector. Those enterprises employing between 10 and 19 people accounted for 36.6% of the manufacturing labour force (and 6.8% of total employment) (p. 76). The tendency towards an oligopolistic pattern of ownership was further reinforced by the fact that by the early 1970s at least 9 industries '... were completely controlled by four or fewer firms accounting for 27% of industrial firms' (p. 76).

Introduction

In the metalworking and engineering sector, De Coninck presented two micro-case studies on enamelware and metal furniture manufacturing concentrating largely on the elements of competition between large and small producers. He therefore provides little or no information on the system of production in the branch or nature of the relations of production within the branch. The review, therefore, concentrates on the above aspects of the structure of production with even here the presentation limited by the sparseness of information.

Enamelware and Metal Furniture Manufacturing Structure of Production

In the case of the enamelware and metal furniture industry, enamelware and metal beds production is dominated by a state-owned company, The Ugandan Metal Products and Enamelling Company Limited (or Tumpeco), importing some 97% of its raw materials for enamelware and 65% for metal furniture (p. 154). Within this branch there is some degree of specialisation and areas of competition with small scale producers. Thus another company, Casement of Africa Limited, concentrated on the production of steel windows, and door frames, producing windows 'depending on size and construction, averaged 250/= (Ugandan shillings) ... (and) doors 1,000/= ...' (p. 154).

Capital Intensity

An important part of large scale market domination is explained by its higher levels of mechanisation as seen in Table 7.1 below for metal furniture making.

Table 7.1

Fixed capital per worker in capitalist and "informal" units (shs.)

		(a)	(b)
	"Formal" Sector	"Informal" Sector	
1. Shoe and sandal manufacturing	22,313	3,632	721
2. Metal furniture	21,705	5,267	2,011
3. Hoes	22,695	6,276	2,513

(Note: Figures for formal sector are approximations only. Column (a) for informal sector refers to value of equipment, premises and stocks, Column (b) to tools only.)

(Source: De Coninck 1980, 158)

The evidence shows some element of market segmentation, with petty producers geared towards the local, low income market, though some petty producers appear to produce products of high quality. The main means of competition here was price. In the case of this branch petty commodity producers engaged in welding, for example, benefited from shortfalls in production by the 'modern' sector. Other producers (window producers) could not match the lower prices of the modern sector, while still yet other producers were restricted to low-income markets (p. 155).

> 'Half of the welders included in our sample of petty producers stated that they faced little competition from the manufacturers of steel items in the modern sector of the economy. Others noted that they could not attain their quality and competition therefore presented a problem, others on the contrary stated that their products were of a superior quality. Windows produced by these petty producers sold at between 300 and 500 shillings, beds at between 250 and 300 shillings, in all cases higher prices than those for similar items produced in the 'modern' sector (p. 154) ... Tinsmiths were selling their wares at lower prices and therefore 'tapped' the low-income market: most noted that enamelware from Tumpeco was very expensive and that they were producing for the 'common man' goods of inferior quality as compared to those produced in the capitalist system.' (p. 155)

Relations of Production: Hoe Manufacturing

As seen from Table 7.1 earlier, comparisons between 'formal' capitalist sector and 'informal sector' units show that capitalist firms producing hoes have a substantially higher level of fixed capital per worker almost quadruple that of informal units (taking formal and informal sector (a) column). The degree of capital intensiveness of production, however, varies between petty commodity producers in the branch.

Costs of Production and Output

A comparison of the production costs of the large scale mnc hoe producer, compared with two other petty producers (the one mechanised and the other labour-intensive), (Table 7.2) shows that while the smaller informal sector units produce hoes at lower prices, in the case of the smallest petty producer offering hoes at just under half the cost of the large scale firm, the substantially smaller output potential of these firms appears as a limit on their potential to capture markets. Compared with the mechanised small petty producer, the mnc producer in 1975 produced 1,900 hoes per day costing 12/98 shillings each and to be sold at 18/= while the small producer had slightly lower costs of production (1975) of 10/39 per hoe sold at 15/75 shillings per hoe but could only manage to produce 10-15 hoes per day.

Disregarding the output limits of these small producers, the study maintains that 'increased production costs between 1973 and 1975 have enabled petty producers and artisans to gain a competitive advantage' (p. 157).

The Shoe Industry

Introduction

In the shoe production case study in Uganda (1970), De Coninck looks at the nature of the oligopolistic domination by capitalist shoe enterprises such as Bata, an MNC producer tending to dominate production over 5 smaller producers employing between 5 and 60 people (p. 149).

Table 7.2

Production costs (per hoe) (shillings) (10)

Item	Chillington's (1973)	Chillington's (1975)	Mr. S. K'la (1975)	Mr. A. Teso (1974)
Steel	3/00	7/68	5/00	--
Scrap	--	--	--	3/00 or free
Electricity	--	--	0/12	--
Charcoal	--	--	--	1/00
Welding rods	--	--	1/25	--
Labour	0/50	0/60	0/72	3/00 excl. own
Grinding	--	--	1/20	--
Transport	--	--	0/60	--
Hoe noose	--	--	1/50	--
Spares, mainten.	0/40	1/20	--	--
Glue, etc.	0/60	1/20	--	--
Other costs	0/95	1/90	--	--
Varnishing, label	0/20	0/40	--	--
Total:	5/65	12/98	10/39	7/00
Sold at:	6/15	18/00	15/75	10/00
Output per day (No. of hoes):	2,800	1,900	10 to 15	1 to 2

(Source: De Coninck 1980, 158)

Employment, Output, Capital Intensity

A picture of the extent of mnc domination in the shoe branch is given by the following output and employment figures. By 1975, the Bata Shoe Company in Uganda was producing 10,000 pairs of shoes per day, had 15 million Ugandan shillings in fixed assets and employed 600 people, while its distributive networks alone also absorbed one sixth of the labour force (p. 149). In 1972 one of three remaining local companies employed 30 people, had a sales production of 9,600 pairs of shoes in 1973 valued at 528,000 shillings and assets valued at 15 million shillings. Another smaller one enjoyed sales of 1 million shoes in 1972, an output of 30,000 pairs and assets of 200,000 shillings, employing 53 people (p. 149).

As seen from Table 7.1 earlier, the levels of capital investment for the large scale mnc shoe producer, in terms of the amount of fixed capital per worker, outstrips about 6 times that of the middle scale petty producers.

The Structure of Production

Linkages

The case study shows that the Bata Shoe Company dominated smaller shoe factories through its vertical productive linkages (with tanneries in Jinja) and its distributive networks (p. 149). Most raw materials for production (except for textiles, some packaging materials and some wood) were, however, imported requiring some 300 million shillings per month in foreign exchange (pp. 149-150).

Markets and Competition

The drop in the number of shoe producers in Jinja from 38 (5 years before the survey) to 5, shows that large scale mnc production despite the higher prices reported for its rubber sandal products, was slowly dominating the local market and pushing out smaller producers. An apparently important element of this market domination was its production of a standardised, high quality good.

Though there was some conflicting evidence about the extent of mnc competition, the following appraisals taken from 2 small shoe manufacturer/repairers, provides some indication of the dynamics of this competition.

> 'In a small survey of petty producers in Kisumu, Kenya, an Asian shoemaker and repairer stated that Bata shops took a great deal of business away from him and that he had experienced a steady decline in customers, especially at the time of the Bata sales, although Bata shoes were, he thought, no better than his. ... The manager of Bagatto, a shoe manufacturing cooperative society employing 20 in Kampala, estimated that Bata shoes were on average 40% cheaper than theirs and that rapid changes in design were unbeatable. Sales were barely sufficient to cover costs because the Bagatto shoes were of better quality, and only picked up whenever Bata stocks were exhausted in town.' (p. 153)

Price competition therefore presented a major means by which mnc producers could squeeze out small petty commodity producers engaged in shoe manufacturing, and force others into the production of less profitable motor-car tire sandals (p. 153). Small producers could, however, benefit in times when Bata could not meet production needs (p. 153).

Conclusions

Through his case history approach of petty producers, De Coninck thus shows that while large scale domination may mean that these producers control the most profitable markets, pushing smaller producers out of production or into less profitable areas of production, he also shows that small producers can thrive and expand production. Their success in competing more successfully with the large mnc firm in output terms would, however, seem to be thwarted by their lower scales of mechanisation.

FOOTNOTES

1. Full capacity is defined in the bakery industry as '24 hours a day, 360 days per year' or 8,640 hours per year (p. 112).

2. The calculations upon which these rate of return observations were based, however, excluded recurrent transport costs, working capital, overheads, repairs and maintenance, taxes and depreciation allowances 'over and above these implicitly considered in the n's assumed for individual items of equipment' (p. 157). These observations were also based on the assumption of homogeneity of output.

3. The sampling frame for the first two sectors differed: the handloom sample was drawn from a two-stage stratified, selective sampling of handloom units in Narsingdi, Shazadpur and Tangail (p. 110). The data used in the study, however, drew on the Narsingdi and Shazadpur samples including a total of 244 handloom units, 189 using 1-14 looms and 55, or more looms (p. 111). The powerloom sample of 10 units was randomly selected from a list of 25 units in Dacca and received a 100% response rate (p. 111). Interviews of the mill sample, including 24 out of 25 of nationally registered spinner-weavers, were administered through the post (p. 112) as against the survey questionnaire methods used in the foregoing samples.

4. This seems to correspond closely to Steel's characterisation of the 'intermediate sector' which contains all of the elements identified in the Reichmuth study, including technological, size, and unregulated market, criteria.

5. The unregistered enterprises for Schmitz's knitting and weaving sample were contacted through the major machinery supplier.

6. Registered enterprises for Schmitz's hammock case study were randomly selected from a 2/3 survey from the Ministry of Labour register of enterprises from the Human Resources Department of SUDENE. Clandestine enterprises were located by way of a sequence of branch members and their contacts (Schmitz 1979, 9).

PART FOUR

CONCLUSION

The purpose of this research study has been to provide a survey of existing empirical studies on industrial and manufacturing activities in the informal sector of developing countries. This has been undertaken through the review of two different types of case studies: firstly country and city level studies concerned with the sectoral composition of the informal sector, and secondly branch specific studies within the industrial and manufacturing sector.

The survey has highlighted a clear distinction in the research methodologies utilised in the different types of studies: country and city level studies have been based primarily on cross-sectional survey techniques with pre-coded questionnaires, while recent branch specific studies have relied more on quantitative techniques such as anthropological participant observation. It is clear that both methodologies impose severe limitations in terms of the range of data collected. Cross-sectional surveys are essential to provide basic information on the scale and size of informal sector activities within a specific geographical area, be it a country, region or city. However, by their very nature (preset questions and coded answers), they cannot come to grips with the interrelated complexity of internal and external constraints affecting the growth opportunities of small producers in the informal sector. This demands far more detailed qualitative research, often time consuming and sensitive in nature if the linkages and constraints particular to individual enterprises are to be identified.

However, just as the limitations of 'top down' survey questionnaires are recognised, so too are the limitations of 'bottom up' research. Ideally what is required is a combination of the two, recognised in some of the more recent studies such as those by, for instance, Harriss and Schmitz.

In a review of this length it has not been possible to include all the informal sector studies available. This is particularly true of Part Three, where the criteria for selection were twofold: firstly it was intended to indicate the range of sectoral studies available and, secondly, to review those studies most concerned to identify the interrelated constraints affecting and determining the growth potential of small scale enterprises.

Therefore, in the bibliography a far more extensive list of branch sector studies, not only in the productive but also in the service and distributive sectors, is included.

From the wide diversity of studies reviewed a number of very brief tentative comparative conclusions can be drawn, relating to a few of the numerous different characteristics identified. (Time constraints do not permit a more detailed comparative analysis.)

Size

Two explanatory variables relating to size dimensions were presented either explicitly or implicitly, particularly in the sectoral studies in Part Two. The first view, most clearly presented in the work by Steel (1977) related the size of the informal sector to the size and function of the particular city. (See also Chuta and Liedholm 1976.) The second variable described in both Abidjan and Freetown case studies concerned the relationship between rural-urban migration and informal sector size. Thus the contribution of total migrants in the Abidjan informal sector was 31% and in Freetown 70%.

The Colombo City study, in direct contrast, attributed the small size of the informal sector (20%) to the absence of migration. (However, the restrictive definition used to identify the informal sector in Colombo resulted in the diminished overall size of the sector.)

Skill Transfer

The vast majority of sectoral studies in Part Two identified a formal/informal flow of labour and skill which related to the remunerative capacity of the formal sector. However, while some branch studies corroborate this directional flow, a number of others pointed to a reversal of this flow (Hakam 1978; see also Reichmuth 1978; Schmitz 1982). The reasons for this reversal varied. In Hakam's study (1978), the circumstances producing this flow were complementary and often supplementary informal sector production in the auto-repairs industry; while in Schmitz's study (1982) such reversals were linked to differential remunerative capacity between subcontracted and independent producers.

Labour, Capital Intensity and Output

The general correlation made between labour, and capital intensity was that higher levels of capital intensity, and lower ratios of labour to capital, were the net result of increasing mechanisation and technological organisation. A number of studies, including Steel (1977) and Reichmuth (1978), in particular noted the existence of an intermediate or advanced informal sector that exhibited some of the features of higher productivity levels due to its relative movement away from low levels of technological organisation. Data presented in the branch studies in particular show that textiles and clothing industries are generally seen to be the most labour-intensive areas of production. Importantly, however, this general trend is subject to historical specificity.

The Importance of Subcontracting

An important element of the organisation of subcontracting production was the capacity for fragmentation of the productive process. This was shown in studies of the textiles and clothing industries (see Reichmuth 1978; Schmitz 1982), footwear (see Goddard 1981; also MacEwen Scott 1979), but also construction (Ganesan 1981; MacEwen Scott 1979).

Accumulation

The prospects for accumulation amongst small producers as indicated in the branch studies related to the relations of production amongst large and small producers - a factor not dealt with in the city studies. Although independent production did have advantages, the degree to which this type of production was preferential in comparison to subcontracting related to the stability and autonomy it offered (Reichmuth 1978).

As seen in a number of studies, subordination did not prohibit accumulation amongst petty producers (Chowdhury 1982; De Coninck 1980; Harriss 1982; Reichmuth 1978; Schmitz 1982), with small producers taking advantage of large scale lapses in production or responding to changes in demand more swiftly than large scale producers. As suggested in the evidence from a number of studies, the accumulation prospects of small scale producers was related to the quality of product produced, market orientation and productive relationships between small and large producers. While low quality goods were a feature of some producers, most of these studies indicated that a small portion of artisanal small scale prdouction could be geared towards the high-income market and thus allow for profits if not accumulation amongst small producers. The exitence of the intermediate/advanced informal sector would thus seem to be related to the possibilities for the small scale to share the market with large scale producers.

In the case studies of multinational corporation expansion (Kaplinsky 1981; Langdon 1976), it was shown that large scale domination of the market was mostly related to non-price competitive marketing strategies which drove small producers out of production or led them to attempt to compete under the same technological terms of large scale production. In view of the evidence supporting the expansion possibilities of some small scale firms, it would appear that the specific dynamics of the complementary and competitive coexistence of large and small scale enterprises is an area requiring closer examination.

Policy

A persistent theme running throughout the branch studies was the question of government bias against the small scale or petty commodity producer. Chowdhury (1982), for instance, found that the unregistered status of some small scale (handloom) weaving enterprises restricted their access to official licences for imported yarn supplies; at the same time, the state marketing corporation's (BTMC) biased assignment of some of these handloom units to older mills restricted their output quality. In Kaplinsky's (1981) bakery study, government price controls limiting differentials between urban and rural bread producers disadvantaged small rural producers. Langdon (1976) found that government tax policies for the shoe and soap sectors were patterned to promote large scale accumulation and profits. When the large scale mnc sector produced the cheaper good (shoes), producers were taxed progressively according to prices charged, but when the mnc sector sold the more expensive product (soap), producers were taxed according to bulk quantity.

Schmitz (1982) showed that measures designed to assist small scale enterprises by 'formalising the informal', through requirements for registration of unregistered enterprises and the inspection of books relating to the number of registered workers, in reality penalised small scale enterprises which only survived through the informality within their system of production. Reichmuth (1978) equally identifies the importance of non-enforcement of registration regulations if small scale enterprises are to share in economic growth. Therefore from the evidence in Part Three it is clear that government policy bias is one of the major constraints which limit the growth potential of small scale enterprises.

Appendix I

It is useful to state, very briefly, by way of background, some of the most important definitional distinctions. Three of the earliest conceptualisations, all within the common a priori dualist framework, are those by Hart, Mazumdar and Weeks. Hart's original dualist dichotomy of the urban economy was based on the distinction between wage earning and self-employment (the latter because they eluded statistical enumeration tended to be ignored or at best categorised as part of a large unproductive tertiary sector) with the key variable being the degree of rationaisation of work. Although Hart's dichotomy was based on the characteristics of enterprises in the city, his definition of the target group remained unclarified including as it did informal income-generating activities, the unorganised sector, self-employed individuals.

Mazumdar (1976), in a different approach to the informal/formal sector concept, based his dichotomy on the urban labour market, rather than between enterprises, and described the informal sector as 'unprotected' as against the formal 'protected' sector. The basic distinction between the two sectors related to the fact that employment in the formal sector was protected so that wage levels and working conditions were not available to job seekers unless they managed to cross the barrier of entry with mechanisms by both the trade unions and government designed to prevent entry.

Weeks (1975), like Mazumdar, stressed factors external to the character of the enterprise, but laid specific emphasis on the role of the state in basing his two sector distinction on 'the organisational characteristics of exchange relationships and the position of economic activity vis-a-vis the State'. While the formal sector which includes government activities as well as private sector enterprises are officially recognised, nurtured and regulated by the state through such mechanisms as tariff and quota protection, import tax rebates, selective monetary controls and licensing measures, the informal sector operates outside the system of benefits, or access to formal credit institutions, etc.

Appendix 2

Appendix. Suggested criteria for identifying informal sector enterprises

1. *Manufacturing*. A manufacturing enterprise may be included in the informal sector if it satisfies one or more of the following conditions:
   - *(a)* It employs 10 persons or less (including part-time and casual workers).
   - *(b)* It operates on an illegal basis, contrary to government regulations.
   - *(c)* Members of the household of the head of the enterprise work in it.
   - *(d)* It does not observe fixed hours/days of operation.
   - *(e)* It operates in semi-permanent or temporary premises, or in a shifting location.
   - *(f)* It does not use any electricity in the manufacturing process.
   - *(g)* It does not depend on formal financial institutions for its credit needs.
   - *(h)* Its output is normally distributed direct to the final consumer.
   - *(i)* Almost all those working in it have fewer than six years of formal schooling.
2. *Construction*. A construction enterprise may be included in the informal sector if it satisfies one or more of the following conditions:
   - *(a)* Any of 1 *(a)*-*(c)* or *(i)* above.
   - *(b)* It does not own power-operated construction machinery and equipment.
   - *(c)* It is engaged in the construction of semi-permanent or temporary buildings only.
3. *Transport*. An enterprise providing services related to transport, storage and communications may be included in the informal sector if it satisfies one or more of the following conditions:
   - *(a)* Any of 1 *(a)*-*(e)*, *(g)* or *(i)* above. Condition 1 *(e)* does not apply to transport activity *per se*.
   - *(b)* It does not use any mechanical power.
4. *Trade*. A trading enterprise may be included in the informal sector if it satisfies one or more of the following conditions:
   - *(a)* Any of 1 *(a)*-*(e)* above.
   - *(b)* It deals in second-hand goods, or sells prepared foods.
5. *Services*. A service enterprise may be included in the informal sector if it satisfies one or more of the following conditions:

   Any of 1 *(a)*-*(e)* above.

(Source: Sethuraman (1976, 81))

Appendix 3

Estimate of African employment in Nairobi, 1969
(Thousands)

Group	Males	Females	Total[1]
African population over 14	179	84	263
Accounted for :	137	26	163
Secondary-school pupils	*17*	*6*	*23*
Students	*2*	—	*2*
Wage employment in the formal sector	*116*	*19*	*134*
Self-employment in the formal sector	*3*	*1*	*4*
Unaccounted for (informal-sector employment, housewives, unemployment and miscellaneous)	42	58	100

[1] Totals may not add up exactly owing to rounding.

Source: Technical Paper 3.

(Source: ILO, 1972, 54)

Appendix 4

Proportion of employed persons earning less than 200 sh. per month in Nairobi, by sex and household status, 1970 (Percentages)

Earnings bracket (sh. per month)	Household heads		All household members	
	Male	Female	Male	Female
1–99	13.8	40.7	4.0	19.6
100–199			9.6	13.2
Total	13.8	40.7	13.6	32.8

Source: Whitelaw survey.

(Source: ILO, 1972, 54)

Appendix 5(a)

Enrolment in primary schools by province, 1969

Province	Provincial enrolment		Population of province as percentage of national population
	Numbers	Percentage of national enrolment	
Central	311 970	24.3	15.3
Coast	76 805	6.0	8.6
Eastern	269 652	21.0	17.4
Nairobi	60 944	4.8	4.7
North-Eastern	3 301	0.3	2.2
Nyanza	206 462	16.1	19.4
Rift Valley	183 233	14.3	20.2
Western	169 930	13.3	12.2
National	1 282 297	100.0	100.0

Sources: Ministry of Education: *Annual report*, 1969 and 1970; and *Population census, 1969.*

(Source: ILO, 1972, 512)

Appendix 5(b)

Provincial enrolment for secondary education, in relation to population and national enrolment, 1969

Province	Enrolment as percentage of national total	Enrolment as percentage of provincial population	Province	Enrolment as percentage of national total	Enrolment as percentage of provincial population
Central	23.4	1.60	North-Eastern	0.01	0.05
Coast	9.1	1.12	Nyanza	13.5	0.73
Eastern	12.0	0.12	Rift Valley	11.9	0.62
Nairobi	19.9	4.50	Western	10.2	0.88

Source: Ministry of Education: *Annual report, 1969*; and census data.

(Source: ILO, 1972, 514)

Appendix 6

Methods used by male immigrants in eight individual towns in obtaining their first job (Percentages)

Method used	Nairobi	Mombasa	Kisumu	Nakuru	Eldoret	Thika	Nanyuki	Nyeri	All eight towns
Friend or relative	35.3	33.5	50.4	38.8	34.6	30.9	48.0	42.2	37.6
Newspaper	6.4	5.9	10.8	1.5	1.9	6.2	6.0	3.6	6.0
Employment exchange	4.8	4.3	8.5	3.0	1.9	33.3	8.0	2.4	7.0
Radio	0.3	—	—	1.5	—	—	—	—	—
Heard of job and applied	15.2	21.6	10.8	4.5	3.9	9.9	—	7.2	13.3
Other method	18.2	19.7	9.3	16.4	17.3	13.5	34.0	32.5	18.8
Started own business	5.1	3.2	—	—	—	—	2.0	4.9	2.9
Still unemployed	14.1	11.8	9.3	32.8	40.4	6.2	2.0	7.2	13.8
No response	0.6	—	0.9	1.5	—	—	—	—	0.4
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Henry Rempel: *Labour migration into urban centres and urban unemployment in Kenya*, op. cit.

(Source: ILO, 1972, 559)

Appendix 7

Size of plot

Group (number)	Square meters by percentage of enterprises				
	1-4	5-9	10-14	15-30	No answer
Tinsmiths (28)	7.1	25.0	7.1	53.7	7.1
Carpenters (14)		7.1	14.3	71.5	7.1
Cobblers (7)	28.6	57.1	14.3		
Mattress makers and tailors (3)	33.3	33.3		33.3	
All groups (52)	10	25	10	50	5

(Source: Chana and Morrison, 1975, 127)

Appendix 8 (a)

Age

Group (number)	Years					
	10-19	20-24	25-29	30-34	34-39	40-50+
Tinsmiths (28)	10.7	14.3	32.1	17.9	14.3	10.7
Carpenters (14)		28.6	28.6	35.7	7.1	
Cobblers (7)		42.8	14.3	28.6	14.3	
Mattress makers and tailors (3)			33.3	33.3		33.3
All groups (52)	6	21	28	25	12	8

(Source: Chana and Morrison, 1975, 125)

Appendix 8(b)

Length of stay

Group (number)	Years (Percentage distribution) 0-1	2-5	6-10	10+
Tinsmiths (28)	7.1	35.7	17.9	39.3
Carpenters (14)	14.3	21.4	21.4	42.9
Cobblers (7)	28.6	28.6		42.8
Mattress makers and tailors (3)				100
All groups (52)	12	28	16	44

(Source: Chana and Morrison, 1975, 125)

Appendix 8(c)

Outlook and future plans

Group (number)	Demand for products			Plans for enterprise			
	Increase	Decrease	Constant	Expand	Constant	Close	No answer
Tinsmiths (28)	60.7	17.9	21.4	60.7	7.1	28.6	3.6
Carpenters (14)	57.1	14.3	28.6	78.6		7.1	14.3
Cobblers (7)	28.6	71.5		100			
Mattress makers and tailors (3)	66.6		33.3	33.3			66.6
All groups	56	23	21	69	4	4	23

(Source: Chana and Morrison, 1975, 129)

Appendix 9

Employment in the Ivory Coast and in Abidjan by sector and by status, 1965 and 1970

Sector and branch of activity	1965					1970				
	Informal sector			Formal sector: wage and salary earners	Total	Informal sector			Formal sector: wage and salary earners	Total
	Self-employed and family workers	Wage and salary earners	Sub-total			Self-employed and family workers	Wage and salary earners	Sub-total		
					A. Ivory Coast					
Primary sector	*1 376 200*	*199 900*	*1 576 100*	*46 800*	*1 622 900*	*1 451 650*	*289 810*	*1 741 460*	*55 640*	*1 797 100*
Secondary sector	*77 080*	*12 300*	*89 380*	*54 000*	*143 380*	*114 120*	*16 400*	*130 520*	*82 800*	*213 320*
Industry	51 890	6 300	58 190	29 000	87 190	59 890	8 400	68 290	40 800	109 000
Construction	25 190	6 000	31 190	25 000	56 190	54 230	8 000	62 230	42 000	104 230
Tertiary sector	*15 020*	*22 800*	*37 820*	*88 700*	*126 520*	*24 940*	*28 520*	*53 460*	*117 360*	*170 820*
Public administration	—	—	—	34 000	34 000	—	—	—	45 000	45 000
Private services	15 020	22 800	37 820	54 700	92 520	24 940	28 520	53 460	72 360	125 820
Total	*1 468 300*	*235 000*	*1 703 300*	*189 500*	*1 892 800*	*1 590 710*	*334 730*	*1 925 440*	*255 800*	*2 181 240*

(Source: Joshi, Lubell and Mouly 1976,106-7)

Appendix 10

Informal and formal sector employment in Abidjan by sector and industry, 1965 and 1970

Sector and branch of activity [1]	1965			1970		
	Informal sector [2]	Formal sector [3]	Total	Informal sector [2]	Formal sector [3]	Total
Primary	*2 000*	*2 000*	*4 000*	*3 000*	*3 000*	*6 000*
Agriculture and livestock	500	—	500	900	—	900
Export agriculture	500	600	1 100	900	1 000	1 900
Forestry	—	600	600	—	1 000	1 000
Fisheries	1 000	800	1 800	1 200	1 000	2 200
Secondary	*8 000*	*25 000*	*33 000*	*15 000*	*38 000*	*53 000*
Mining and quarrying	—	800	800	—	1 100	1 100
Food processing [4]	500	2 400	2 900	900	6 500	7 400
Textiles and clothing	2 100	250	2 350	4 000	3 400	7 400
Leather and footwear	200	350	550	400	800	1 200
Wood and wood products	1 000	2 300	3 300	1 900	3 000	4 900
Petroleum refining	—	—	—	—	200	200
Chemicals	10	900	910	80	1 500	1 580
Rubber	10	—	10	20	300	320
Building materials and glass; metals; vehicle repair and manufacture; other electrical and mechanical industries	1 980	4 200	6 180	3 500	5 600	9 100
of which: Vehicle manufacture and repair	(1 300)	.	.	(2 300)	(3 000)	(5 300)
Miscellaneous manufacturing	700	1 800	2 500	1 300	1 000	2 300
Electricity, gas, water	—	1 000	1 000	—	1 600	1 600
Construction and public works	1 500	11 000	12 500	2 900	13 000	15 900
Tertiary	*19 000*	*47 000*	*66 000*	*29 000*	*65 000*	*94 000*
Transport and communications	2 000	10 000	12 000	2 500	13 000	15 500
Housing; other services	6 000	3 600	9 600	10 000	5 000	15 000
Trade and commerce	11 000	9 000	20 000	16 500	12 000	28 500
Public and private administration	—	15 000	15 000	—	22 000	22 000
Financial institutions	—	1 400	1 400	—	2 000	2 000
Domestic services	—	8 000	8 000	—	11 000	11 000
All sectors	*29 000*	*74 000*	*103 000*	*47 000*	*106 000*	*153 000*

[1] Classification of the Société d'Etudes Economiques et Financières. [2] Self-employed, family workers and wage earners. [3] Wage and salary earners. [4] Grain milling; food processing and canning; beverages and ice; edible fats and oils; other food, tobacco.

Source: *L'image base 1970 : L'emploi*, op. cit., p. 120. See also table 26. The estimates in this table were originally made by Heather Joshi by extrapolating and reconciling figures reported in: Y. Bonete: *Rapport au Gouvernement de la République de la Côte d'Ivoire sur la promotion des entreprises ivoiriennes* (Geneva, ILO, 1971); *Côte d'Ivoire 1965 : Emploi*, op. cit.; République de Côte d'Ivoire, Ministère du Plan, Direction des Etudes de Développement: *Recensement des activités commerciales, artisanales et des services dans l'agglomération abidjanaise, 1967: Rapport général*, by J. Chateau (Abidjan, 1967); *Côte d'Ivoire 1965: Artisanat*, op. cit.; Republique de Côte d'Ivoire, Ministère du Plan, Direction des Etudes de développement: *Aménagement de l'espace ivoirien : Structure et implantation du secteur public*, by Yegnan Touré (1972); *Résultats de l'enquête main-d'œuvre, 1971*, op. cit.; and unpublished figures on 1970 reported to the Manpower Office. The estimate for Abidjan prepared by the Société d'Etudes Economiques et Financières is reproduced here for the sake of consistency with that organisation's national estimates. It excludes market women from the estimate for trade, thus reducing the estimate of total employment in trade (and that of employment of women) in Abidjan by some 10-15,000 persons.

(Source : Joshi, Lubell and Mouly, 1976, 54)

Appendix 11

Proportion of material and labour costs in informal sector construction (three-dwelling shack in a shanty town) in Abidjan, 1970

Cost item	Fr. CFA	Percentage
Light construction materials	17 500	76.1
Carpenter	2 500	10.9
Other labour (hired labour or imputed value of own labour)	3 000	13.0
Total	23 000	100.0

Source: Fadeuilhe, op. cit., p. 137.

(Source: ILO, 1976, 74)

Appendix 12

Number of Small-Scale Enterprises and Workers by Sector and Subsector: Accra, 1973 Survey[a]

Sector	Firms with Full-Time Wage Employees		Firms with Other Workers[b]	Owner-Only Firms		Total Firms		Full-Time Wage Employees	Other Employees			Owners Actively Engaged			Total Workers	
	10-29	1-9		Established[c]	Casual (no shop)[d]	No.	Percentage		Part-Time	Apprentices	Family	Employing Others	Self-Employed Estab.[c]	Self-Employed Casual[d]	No.	Percentage
Manufacturing																
Clothing	30	90	1,010	770	770	2,670	43.3	820	10	3,550	250	1,210	790	770	7,400	33.0
Furniture[e]	0	70	270	250	20	610	9.9	240	120	480	80	370	280	40	1,610	7.2
Printing	30	130	10	10	0	180	2.9	970	60	260	60	180	10	0	1,540	6.9
Metal	40	20	50	0	20	130	2.1	710	0	300	40	120	0	20	1,190	5.3
Bread	20	10	50	50	160	290	4.7	550	40	0	40	80	50	160	920	4.1
Travel bags	40	10	10	0	20	90	1.5	670	0	90	30	50	10	20	870	3.9
Milling	0	140	110	20	0	270	4.4	220	0	40	160	100	20	0	540	2.4
Jewelry[f]	10	10	20	70	0	110	1.8	210	0	70	30	40	70	0	420	1.9
Other	50	80	130	100	310	670	10.8	950	120	120	110	320	110	310	2,040	9.1
Repairs																
Vehicle	20	140	140	0	0	300	4.9	1,040	50	2,040	180	400	0	0	3,710	16.5
Electrical	0	30	130	50	10	220	3.6	40	0	490	60	170	60	10	830	3.7
Shoe	0	20	30	110	80	240	3.9	90	0	30	0	70	110	80	380	1.7
Watch	0	10	10	150	0	170	2.8	40	0	20	0	30	160	0	250	1.1
Other	0	20	100	90	0	210	3.4	40	0	440	0	150	100	0	730	3.3
Total manufacturing and repairs	240	780	2,070	1,680	1,390	6,160	100.0	6,590	400	7,930	1,040	3,290	1,770	1,410	22,430	100.0
Percentage	3.9	12.7	33.6	27.3	22.6	100.0	—	29.5	1.8	35.4	4.6	14.7	7.9	6.3	100.0	—
Food, drink, and lodging																
Chop bars[g]	10	290	180	270	320	1,070	39.2	890	30	0	440	490	320	320	2,490	38.1
Local drinks[h]	0	130	310	660	360	1,460	53.5	240	30	0	540	350	680	360	2,200	33.7
Restaurants	50	10	0	0	0	60	2.2	940	10	0	20	50	0	0	1,020	15.6
Hotels and rest houses	20	50	10	0	0	80	2.9	580	30	0	30	90	0	0	730	11.2
Other[i]	0	0	10	50	0	60	2.2	0	0	0	30	10	50	0	90	1.4
Total food, drink, and lodging	80	480	510	980	680	2,730	100.0	2,650	100	0	1,060	990	1,050	680	6,530	100.0
Percentage	2.9	17.6	18.7	35.9	24.9	100.0	—	40.6	1.5	0.0	16.2	15.2	16.1	10.4	100.0	—
Services																
Hairdressing	0	10	210	310	60	590	51.3	30	20	410	20	220	320	60	1,080	28.6
Medical[j]	10	70	20	0	0	100	8.7	310	90	20	30	120	0	0	570	15.1
Drafting, surveying	10	30	40	20	0	100	8.7	210	10	80	50	80	20	0	450	11.9
Art	0	30	10	30	0	70	6.1	110	10	180	20	40	30	0	390	10.3
Photography	0	0	70	70	0	140	12.2	0	0	100	20	70	80	0	270	7.2
Other	30	60	30	30	0	150	13.0	760	110	10	0	90	40	0	1,010	26.8
Total services	50	200	380	460	60	1,150	100.0	1,420	240	800	140	620	490	60	3,770	100.0
Percentage	4.3	17.4	33.0	40.0	5.2	100.0	—	37.7	6.4	21.2	3.7	17.2	12.2	1.6	100.0	—
Sales																
Textiles	10	260	60	40	20	390	6.3	810	0	0	280	310	40	10	1,450	15.7
Provisions	10	90	50	60	510	720	11.7	400	10	0	110	130	90	510	1,250	13.5
Other specific items	0	230	140	420	260	1,050	17.0	600	0	10	200	340	480	260	1,890	20.4
Assorted items	0	160	190	640	3,010	4,000	64.9	420	20	0	330	240	640	3,010	4,660	50.4
Total sales	20	740	440	1,160	3,800	6,160	100.0	2,230	30	10	920	1,020	1,250	3,790	9,250	100.0
Percentage	0.3	12.0	7.1	18.8	61.7	100.0	—	24.1	0.3	0.1	9.9	11.0	13.5	41.0	100.0	—
Grand total	390	2,200	3,400	4,280	5,930	16,200	—	12,890	770	8,740	3,160	5,920	4,560	5,940	41,980	—
Percentage	2.4	13.6	21.0	26.4	36.6	100.0	—	30.7	1.8	20.8	7.5	14.1	10.9	14.1	100.0	—

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[a] Sample survey figures have been multiplied by ten.

[b] Part-time wage employees, apprentices, or family members (whether paid or unpaid) employed, but no full-time wage workers (other than family members).

[c] Well-established businesses involving a reasonable amount of investment in fixed assets, operated by the owner alone.

[d] "Casual" refers to businesses that have a signboard or are clearly visible, but do not have a regular shop and involve only limited capital investment. It includes sales from small kiosks (if actually open for business); manufacturing and repair activities in market stalls (especially clothing); and businesses operated in people's homes (bread baking and fish smoking if a large oven is visible; clothing, hairdressing, drinks, and other activities if a signboard is present). Sales from tables or market stalls and other activities involving no building or equipment are excluded.

[e] Furniture includes coffin making.

[f] Jewelry includes goldsmiths and silversmiths.

[g] "Chop bars" includes sellers of kenkey and other foods, if selling from a fixed structure rather than just from a table or by the wayside.

[h] "Local drinks" consists of establishments principally selling akpeteshie, palm wine, or pito.

[i] "Other" includes establishments selling hot beverages or beer, but not local drinks.

[j] Medical services include private doctors' and midwives' clinics.

(Source: Steel, 1977, 192-3)

Appendix 13

Number of Small-Scale Enterprises and Workers by Sector and Subsector: Aburi, 1973 Survey

Sector	Firms with Full-Time Wage Employees		Firms with Other Workers[a]	Owner-Only Firms		Total Firms		Full-Time Wage Employees	Other Employees			Owners Actively Engaged			Total Workers	
	10-29	1-9		Estab-lished[b]	Casual (no shop)[c]	No.	Per-centage		Part-Time	Appren-tices	Family	Employing Others	Self-Employed Estab.[b]	Self-Employed Casual[c]	No.	Per-centage
Manufacturing																
Clothing	0	0	2	9	2	13	37.1	0	0	9	0	2	9	2	22	41.5
Bread	0	0	1	0	4	5	14.3	0	0	0	2	1	0	4	7	13.2
Milling	0	2	0	0	0	2	5.7	2	0	0	3	0	0	0	5	9.4
Kente weaving	0	0	1	2	0	3	8.6	0	0	0	1	1	2	0	4	7.5
Furniture[d]	0	0	1	1	0	2	5.7	0	0	1	0	1	1	0	3	5.7
Jewelry[e]	0	0	1	1	0	2	5.7	0	0	1	0	1	1	0	3	5.7
Repairs																
Shoe	0	0	1	2	2	5	14.3	0	0	1	0	1	2	2	6	11.3
Blacksmith	0	0	0	2	0	2	5.7	0	0	0	0	0	2	0	2	3.8
Vehicle	0	0	0	1	0	1	2.9	0	0	0	0	0	1	0	1	1.9
Total manufacturing and repairs	0	2	7	18	8	35	100.0	2	0	12	6	7	18	8	53	100.0
Percentage	0.0	5.7	20.0	51.4	22.9	100.0	—	3.8	0.0	22.6	11.3	13.2	34.0	15.1	100.0	—
Food, drink, and lodging[f]																
Chop bars[g]	0	0	2	1	1	4	25.0	0	0	0	6	2	1	1	10	32.3
Local drink[h]	0	0	3	2	7	12	75.0	0	0	0	9	3	2	7	21	67.7
Total food, drink, and lodging	0	0	5	3	8	16	100.0	0	0	0	15	5	3	8	31	100.0
Percentage	0.0	0.0	31.3	18.8	50.0	100.0	—	0.0	0.0	0.0	48.4	16.1	9.7	25.8	100.0	—
Services																
Hairdressing	0	0	0	2	0	2	66.7	0	0	0	0	0	2	0	2	66.7
Photography	0	0	0	1	0	1	33.3	0	0	0	0	0	1	0	1	33.3
Total services	0	0	0	3	0	3	100.0	0	0	0	0	0	3	0	3	100.0
Percentage	0.0	0.0	0.0	100.0	0.0	100.0	—	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	—
Sales																
Provisions	0	0	0	2	4	6	20.7	0	0	0	0	0	2	4	6	17.1
Pharmaceuticals	0	0	2	0	0	2	6.9	0	0	0	2	2	0	0	4	11.4
Other specific items	0	0	2	3	0	5	17.2	0	1	0	1	2	3	0	7	20.0
Assorted items	0	1	2	9	4	16	55.2	1	0	0	2	2	9	4	18	51.4
Total sales	0	1	6	14	8	29	100.0	1	1	0	5	6	14	8	35	100.0
Percentage	0.0	3.4	20.7	48.3	27.6	100.0	—	2.9	2.9	0.0	14.3	17.1	40.0	22.9	100.0	—
Grand total	0	3	18	38	24	83	—	3	1	12	26	18	38	24	122	—
Percentage	0.0	3.6	21.7	45.8	28.9	100.0	—	2.5	0.8	9.8	21.3	14.8	31.1	19.7	100.0	—

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[a] Part-time employees, apprentices, or family members (whether paid or unpaid) employed, but no full-time wage workers (other than family members).

[b] Well-established businesses involving a reasonable amount of investment in fixed assets (a shop or workshed, whether by the owner or the landlord), operated by the owner alone.

[c] "Casual" refers to businesses that have a signboard or are clearly visible, but do not have a regular shop and involve only limited capital investment. It includes sales from small kiosks (if actually open for business); manufacturing and repair activities in market stalls (especially clothing); and businesses operated in people's homes (bread baking and fish smoking if a large oven is visible; clothing, hairdressing, drinks, and other activities if a signboard is present). Sales from tables or market stalls and other activities involving no building or equipment are excluded.

[d] Furniture includes coffin making.

[e] Jewelry includes goldsmiths and silversmiths.

[f] Excluding a large establishment outside the central town of Aburi and not catering to the local population, with over 30 wage employees (although fewer than 30 are full-time).

[g] "Chop bars" includes sellers of kenkey and other foods, if selling from a fixed structure rather than just from a table or by the wayside.

[h] "Local drinks" consists of establishments principally selling akpeteshie, palm wine, or pito.

(Source: Steel, 1977, 196-7)

Appendix 14

Number of Small-Scale Enterprises and Workers by Sector and Subsector: Nsawam, 1973 Survey

Sector	Firms with Full-Time Wage Employees		Firms with Other Workers[a]	Owner-Only Firms		Total Firms		Full-Time Wage Employees	Other Employees			Owners Actively Engaged			Total Workers	
	10-29	1-9		Established[b]	Casual (no shop)[c]	No.	Percentage		Part-Time	Apprentices	Family	Employing Others	Self-Employed Estab.[b]	Self-Employed Casual[c]	No.	Percentage
Manufacturing																
Clothing	0	1	36	32	40	109	44.3	2	0	146	2	39	33	40	262	39.8
Furniture[d]	0	1	10	10	2	23	9.3	2	0	19	2	9	10	2	44	6.7
Milling	0	7	10	3	0	20	8.1	8	1	3	11	9	3	0	35	5.3
Jewelry[e]	0	0	6	14	0	20	8.1	0	0	11	0	6	17	0	34	5.2
Kente weaving	0	2	1	2	0	5	2.0	13	0	6	0	3	4	0	26	3.9
Bread	0	0	0	0	15	15	6.1	0	0	0	0	0	0	15	15	2.3
Other	1	1	5	4	3	14	5.7	24	5	7	4	9	4	3	56	8.5
Repairs																
Vehicle	0	1	14	1	0	16	6.5	3	0	100	1	15	1	0	120	18.2
Electrical	0	0	6	0	0	6	2.4	0	0	26	0	6	0	0	32	4.9
Blacksmith	0	0	2	6	0	8	3.3	0	0	13	0	2	6	0	21	3.2
Other	0	0	3	6	1	10	4.1	0	0	3	0	3	7	1	14	2.1
Total manufacturing and repairs	1	13	93	78	61	246	100.0	52	6	334	20	101	85	61	659	100.0
Percentage	0.4	5.3	37.8	31.7	24.8	100.0	—	7.9	0.9	50.7	3.0	15.3	12.9	9.3	100.0	—
Food, drink, and lodging																
Chop bars[f]	1	9	8	4	1	23	20.7	44	0	5	31	19	6	1	106	50.2
Local drinks[g]	0	1	9	53	22	85	76.6	2	0	0	11	10	53	22	98	46.4
Other[h]	0	0	1	2	0	3	2.7	0	0	0	4	1	2	0	7	3.3
Total food, drink, and lodging	1	10	18	59	23	111	100.0	46	0	5	46	30	61	23	211	100.0
Percentage	0.9	9.0	16.2	53.2	20.7	100.0	—	21.8	0.0	2.4	21.8	14.2	28.9	10.9	100.0	—
Services																
Hairdressing	0	0	4	6	0	10	50.0	0	0	15	0	4	6	0	25	43.1
Medical[i]	0	4	0	1	0	5	25.0	14	2	0	0	4	1	0	21	36.2
Other	0	1	1	3	0	5	25.0	4	0	3	0	2	3	0	12	20.7
Total services	0	5	5	10	0	20	100.0	18	2	18	0	10	10	0	58	100.0
Percentage	0.0	25.0	25.0	50.0	0.0	100.0	—	31.0	3.4	31.0	0.0	17.2	17.2	0.0	100.0	—
Sales																
Provisions	0	0	0	3	11	14	11.4	0	0	0	0	0	3	11	14	8.6
Spare parts	0	2	1	2	0	5	4.1	4	1	0	0	3	3	0	11	6.8
Textiles	0	3	1	0	0	4	3.3	3	0	0	3	4	0	0	10	6.2
Pharmaceuticals	0	0	2	4	0	6	4.9	0	0	0	2	2	4	0	8	4.9
Other specific items	0	0	4	11	2	17	13.8	0	0	0	6	4	11	2	23	14.2
Assorted items	0	2	8	46	21	77	62.6	5	0	0	15	9	46	21	96	59.3
Total sales	0	7	16	66	34	123	100.0	12	1	0	26	22	67	34	162	100.0
Percentage	0.0	5.7	13.0	53.7	27.6	100.0	—	7.4	0.6	0.0	16.0	13.6	41.4	21.0	100.0	—
Grand total	2	35	132	213	118	500	—	128	9	357	92	163	223	118	1,090	—
Percentage	0.4	7.0	26.4	42.6	23.6	100.0	—	11.7	0.8	32.8	8.4	15.0	20.5	10.8	100.0	—

[a] Part-time wage employees, apprentices, or family members (whether paid or unpaid) employed, but no full-time wage workers other than family members.

[b] Well-established businesses involving a reasonable amount of investment in fixed assets (a shop or workshed; whether by the owner or the landlord), operated by the owner alone.

[c] "Casual" refers to businesses that have a signboard or are clearly visible, but do not have a regular shop or involve only limited capital investment. It includes sales from small kiosks (if actually open for business); manufacturing and repair activities in market stalls (especially clothing); and businesses operated in people's homes (bread baking and fish smoking if a large oven is visible; clothing, hairdressing, drinks, and other activities if a signboard is present). Sales from tables or market stalls and other activities involving no building or equipment are excluded.

[d] Furniture includes coffin making.

[e] Jewelry includes goldsmiths and silversmiths.

[f] "Chop bars" includes sellers of kenkey and other foods, if selling from a fixed structure rather than just from a table or by the wayside.

[g] "Local drinks" consists of establishments principally selling akpeteshie, palm wine, or pito.

[h] "Other" includes establishments selling but beverages or beer, but not local drinks, plus a hotel.

[i] Medical services include private doctors' and midwives' clinics.

(Source: Steel, 1977, 194-5)

Appendix 15

Shares of Small-Scale Businesses and Employment in Population and Labor Force, 1973 Survey

	Total Population			Nonagricultural Workers		
	Aburi	Nsawam	Accra	Aburi	Nsawam	Accra
1973 projection (1,000)	9.1	27.5	752.0	1.6	7.6	275.9
Percentage in small-scale employment	1.3	4.0	5.6	7.5	14.4	15.2
Number of small-scale businesses per 100 persons	0.9	1.8	2.2	5.1	6.6	5.9
			Indexes (Nsawam = 1.0)			
Small-scale employment	0.3	1.0	1.4	0.5	1.0	1.1
Small-scale businesses	0.5	1.0	1.2	0.8	1.0	0.9

Note: Projections are based on the source, using the appropriate 1960-70 growth rate.

(Source: Steel, 1977, 73)

Appendix 16

Small-Scale Employment Shares by Detailed Category and City Size, 1973 Survey

Employment Category	Percentage of Nonagricultural Employment			Percentage of Total		
	Aburi	Nsawam	Accra	Aburi	Nsawam	Accra
Self-employment						
Self-employed, casual	1.48	1.56	2.15	19.7	10.8	14.1
Self-employed, established	2.35	2.94	1.65	31.1	20.5	10.9
Family members	1.61	1.21	1.15	21.3	8.4	7.5
Nonwage employment						
Apprentices	0.74	4.71	3.17	9.8	32.8	20.8
Part-time workers	0.06	0.12	0.28	0.8	0.8	1.8
Employers of workers other than full-time, wage	1.11	1.74	1.28	14.8	12.1	8.4
Wage employment						
Employers of wage workers	0.00	0.41	0.87	0.0	2.8	5.7
Full-time, wage	0.19	1.69	4.67	2.5	11.7	30.7
Total employment	7.54	14.37	15.22	100.0	100.0	100.0

Note: Nonagricultural employment has been projected to 1973, using 1960-70 growth rates, for comparison with survey data from Aburi, Nsawam, and Accra.

(Source: Steel, 1977, 77)

Appendix 17

Average Capital/Labor Ratios by Size Group
(₵1,000 of assets per worker engaged)

	Small-Scale Businesses			Large-Scale Firms	
		Wage Employees		Number of Workers	
Employment level and asset valuation	No Wage Workers	1-9	10-29	30-99	≥ 100
At 1973 employment level					
Original cost	0.5	1.4	3.8	3.0	6.6
Original cost adjusted to 1973 prices[a]	0.7	2.1	8.4	8.5	19.3
Market value if sold "as is"	0.6	1.7	4.1	—	—
Replacement cost	0.9	4.1	7.1	—	—
At full capacity employment level original cost adjusted to 1973 prices[a]	0.4	1.1	4.8	6.8[b]	15.4[b]
Equivalent in Dollars (1,000)					
At 1973 employment level					
Original cost	0.4	1.3	3.8	4.3	9.3
Replacement cost	0.7	3.5	6.2	—	—
Index (10-29 category = 100)					
Original cost of capital adjusted to 1973 prices[a]					
1973 employment level	8	25	100	101	228
At full capacity employment level	9	23	100	141	319

[a] Inflated by the rise in the wholesale price index for machinery and equipment since the median year of establishment.

[b] Assuming that output would be doubled at full capacity production (since capacity underutilization was estimated to be between one-third and two-thirds) and that employment increases by 25 percent when output doubles (based on Steel 1970).

Note: Figures in first three columns would be slightly higher if workers were adjusted to their full-time equivalent: "Original cost" would be 0.9, 1.8, and 4.1, respectively (no change in last two columns).

(Source: Steel, 1977, 98)

Appendix 18

Capital/Labor Ratios by Firm Size and Industry: Original Purchase Cost of Assets per Worker
(₵1,000 per worker)

	1973 Accra Manufacturing Survey					Industrial Statistics		
				Wage Employees		Employees		
ISIC Code and Industry	Average (1)	Percentage of Col. 8 (2)	No Wage Workers (3)	1-9 (4)	10-29 (5)	30-99 (6)	≥ 100 (7)	Average (8)
3116-17 Milling, baking								
Per FTE worker[a]	2.2	30	1.2	1.8	5.8	1.5	10.6	7.6
Per all workers	1.4	19	0.6	0.7	5.7	1.5	10.6	7.6
At full capacity[b]	1.1	14	0.4	0.4	4.6	—	—	—
Percent decrease	26	—	28	45	19	—	—	—
322-23 Clothing, travel bags								
Per FTE worker	3.0	104	—	0.8	4.8	3.2	2.0	2.9
Per all workers	2.8	96	—	0.7	4.4	3.2	2.0	2.9
At full capacity	1.3	47	—	0.3	2.2	—	—	—
Percent decrease	51	—	—	50	52	—	—	—
332 Furniture								
Per FTE worker	0.2	11	0.4	0.2	—	2.9	0.7	2.3
Per all workers	0.2	7	0.2	0.2	—	2.9	0.7	2.3
At full capacity	0.1	3	0.0	0.1	—	—	—	—
Percent decrease	55	—	82	43	—	—	—	—
342 Printing								
Per FTE worker	4.1	103	1.1	4.5	4.5	2.7	6.0	4.0
Per all workers	3.3	83	0.5	3.4	4.1	2.7	6.0	4.0
At full capacity	1.6	41	0.3	1.9	2.3	—	—	—
Percent decrease	43	40	45	44	—	—	—	—
352 Paints, chemicals								
Per FTE worker	4.0	113	—	—	4.0	2.9	6.8	3.5
Per all workers	3.6	103	—	—	3.6	2.9	6.8	3.5
At full capacity	1.5	43	—	—	1.5	—	—	—
Percent decrease	59	—	—	—	59	—	—	—
369 Cement products								
Per FTE worker	1.1	59	0.6	1.7	—	1.6	3.0	1.9
Per all workers	0.9	48	0.3	1.6	—	1.6	3.0	1.9
At full capacity	0.4	22	0.1	0.7	—	—	—	—
Percent decrease	55	—	62	54	—	—	—	—
381-82 Metal products								
Per FTE worker	2.6	93	—	2.7	2.5	1.4	4.1	2.8
Per all workers	2.2	78	—	1.7	2.3	1.4	4.1	2.8
At full capacity	1.2	45	—	0.3	1.5	—	—	—
Percent decrease	42	—	—	83	34	—	—	—
390 Jewelry, miscellaneous								
Per FTE worker	3.8	228	—	—	3.8	1.7	—	1.7
Per all workers	3.4	203	—	—	3.4	1.7	—	1.7
At full capacity	1.9	110	—	—	1.9	—	—	—
Percent decrease	46	—	—	—	46	—	—	—
Total, these industries								
Per FTE worker	2.5	79	0.9	1.8	4.1	2.5	4.7[c]	3.2
Per all workers	2.1	66	0.5	1.4	3.8	2.5	4.7[c]	3.2
At full capacity	1.2	37	0.3	0.7	2.2	—	—	—
Percent decrease	44	—	36	48	43	—	—	—
Market value of assets per all workers	2.3	—	0.6	1.7	4.1	—	—	—
Total, all industries	—	—	—	—	—	3.0	6.6	5.0
Percentage increase	—	—	—	—	—	20	41	57
Median year of establishment	1969	—	1969	1969	1967	1964	1963[d]	1963
Number of firms								
These industries	50	—	9	23	18	30	12	42
All industries	—	—	—	—	—	39	44	83

Note: Assets are buildings, machinery, equipment, and vehicles (if any).

[a] "FTE" is "full-time equivalent," calculated for the 1973 manufacturing survey by counting apprentices, part-time workers, and family members as half a worker, on the assumption that their labor contribution is less than that of a full-time wage employee. Working owners also are counted as half a worker, since part of their effort is entrepreneurial. For the industrial statistics, FTE workers do not include unpaid family workers.

[b] "Full capacity" uses estimated employment if production were not constrained by raw material or demand inadequacies (with existing assets, at current prices).

[c] The ratio is 4.5 for firms with 100-499 workers, 5.3 for those with 500 or more.

[d] Median year of establishment is 1964 for firms with 100-499 workers, 1962 for those with 500 or more.

Source: Columns 6 through 8 from Ghana, Industrial Statistics, worksheets (see page 89 for explanation).

Appendix 19

Value Added and Gross Output per Worker by Firm Size and Industry

(₡1,000 per annum per FTE worker[a])

ISIC Code and Industry	1973 Accra Manufacturing Survey					Industrial Statistics		
				Wage Employees		Employees		
	Average (1)	Percentage of Col. 8 (2)	No Wage Workers (3)	1-9 (4)	10-29 (5)	30-99 (6)	≥ 100 (7)	Average (8)
3116-17 Milling, baking								
Value added	3.0	24	—	—	3.0	13.1	11.6	12.3
Gross output	2.3	8	0.8	1.8	6.8	19.0	40.0	29.5
At full capacity[b]	4.3	15	1.3	3.7	8.7	—	—	—
322-23 Clothing, travel bags								
Value added	1.0	58	—	0.4	1.7	1.5	3.0	1.8
Gross output	2.3	58	—	0.8	3.3	3.8	5.3	4.0
At full capacity	5.3	132	—	1.4	8.4	—	—	—
332 Furniture								
Value added	0.3	19	—	0.3	—	0.6	3.5	1.4
Gross output	0.7	17	0.7	0.7	—	3.2	6.7	4.2
At full capacity	3.3	79	2.2	3.5	—	—	—	—
342 Printing								
Value added	2.4	115	0.6	2.1	4.0	1.2	1.6	1.5
Gross output	4.9	148	1.2	4.9	6.2	2.7	3.8	3.3
At full capacity	16.1	448	2.1	18.8	12.7	—	—	—
352 Paints, chemicals								
Value added	5.1	160	—	—	5.1	2.8	6.7	3.2
Gross output	14.2	135	—	—	14.2	8.9	23.4	10.5
At full capacity	22.7	216	—	—	22.7	—	—	—
369 Cement products								
Value added	1.3	179	1.3	—	—	0.7	0.7	0.7
Gross output	3.0	111	4.3	0.6	—	2.6	2.8	2.6
At full capacity	9.7	359	12.9	3.5	—	—	—	—
381-82 Metal products								
Value added	3.3	107	—	2.3	4.0	2.1	4.2	3.1
Gross output	7.9	86	—	4.6	10.2	5.0	13.3	9.2
At full capacity	13.9	151	—	13.3	14.0	—	—	—
390 Jewelry, miscellaneous								
Value added	1.4	127	—	0.9	1.6	1.1	—	1.1
Gross output	3.4	148	—	3.4	3.4	2.3	—	2.3
At full capacity	4.7	204	—	4.8	4.6	—	—	—
Total, these industries								
Value added	2.1	77	1.0	1.5	3.0	2.1	4.4	2.8
Gross output	3.5	49	1.5	2.4	6.4	5.2	12.2	7.2
At full capacity	8.7	121	4.9	8.1	11.3	—	—	—
Per all workers								
Value added	1.8	66	0.5	1.2	2.8	2.0	4.4	2.7
Gross output	3.0	42	0.7	1.9	6.0	5.1	12.2	7.1
Number of firms								
Value added	44	—	3	22	19	42	18	60
Gross output	66	—	11	35	20	45	18	63
Total, all industries								
Value added	—	—	—	—	—	2.1	6.3	4.3
Gross output	—	—	—	—	—	6.3	14.4	10.3

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[a] "FTE" is "full-time equivalent," calculated for the 1973 manufacturing survey by counting apprentices, part-time workers, and family members as half a worker, on the assumption that their labor contribution is less than that of a full-time wage employee. Working owners also are counted as half a worker, since part of their effort is entrepreneurial. For the industrial statistics, FTE workers do not include unpaid family workers.

[b] "Full capacity" uses estimated employment if production were not constrained by raw material and demand inadequacies (with existing assets, at current prices).

Source: Columns 6 through 8 from Ghana, Industrial Statistics, worksheets (see page 89 for explanation).

(Source: Steel, 1977, 208-9)

Appendix 20

Median and Minimum Manufacturing Wages by Size Group

	Small-Scale Businesses			Medium and Large-Scale[b]
	No Wage Workers[a]	Wage Employees 1-9	Wage Employees 10-29	≥ 10 Workers
Median monthly wage (₵)	20.80	33.02	37.70	38.58
Percentage of employees below minimum wage[c]	75	20	7	1
Percentage of employees below minimum + 10%	75	20	17	12

[a] Figures refer to 16 apprentice, part-time, or family workers engaged in seven establishments.

[b] The 1971 median has been raised by the growth rate over the preceding two years to approximate the 1973 figure. The actual 1973 median is probably higher, as a result of the 33 percent rise in the minimum wage in 1972.

[c] The minimum daily wage was equivalent to ₵19.50 per month in 1971, ₵26.00 in 1972-73, and ₵52.00 after July 1974 (on the basis of 26 working days per month).

Source: Small-scale businesses data from 1973 Accra manufacturing survey; data for medium- and large-scale firms from Ghana, Labour Statistics, 1971.

(Source: Steel, 1977, 101)

Appendix 21

Utilization of Productive and Employment Capacities (percentage)

	1973 Accra Manufacturing Survey				
	No Wage Workers (1)	Wage Employees 1-9 (2)	Wage Employees 10-29 (3)	Average (4)	1971 Industrial Statistics (5)
1. Current output as percent of maximum					
a. With present workers	36	45	62	49	69
b. If no demand/ materials constraints	21	31	44	34	33[a]
2. Current employment as percent of maximum					
a. If no demand/ materials constraints	54	58	65	60	—
b. If loans available for expansion	43	52	59	53	—
3. Employment/output expansion ratio if no constraints[b]	.20	.33	.42	.34	.25

[a] Based on three-shift maximum capacity, assuming no loss in productivity on the third shift. This is likely to underestimate utilization with respect to the optimum long-run production level. An average of lines 1a and 1b, or about 50 percent, may be taken as an approximation of the true utilization.

[b] Average percentage increase in employment (from line 2a) divided by average percentage increase in output (from line 1b) if there are no demand/materials constraints, based on manufacturing firms actually reporting.

(Source: Steel, 1977, 95; originally in Steel, 1970)

Appendix 22

Sources of Finance for Small Manufacturing Businesses in Accra, 1973 Survey (percentage of firms in each size category)

Source of Finance	No Wage Workers	Wage Employees 1-9	10-29	All Firms Surveyed
Personal savings or relatives' money[a]	91.7	96.9	80.9	90.8
Derived in part from cocoa farms	16.7	19.4	10.0	15.9[b]
Personal savings only	41.7	78.1	28.6	55.4
Personal savings plus some other source	25.0	9.4	42.9	23.0
Bank loans[a]	8.3	3.1	23.8	10.8
Number of respondents	12	32	21	65

[a] Data on savings and loans add up to more than 100 percent where some firms used both bank loans and personal or relatives' financing.

[b] An additional 14.3 percent have relatives who own cocoa farms but did not assist in financing the business.

Source: 1973 Accra manufacturing survey.

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[*] The higher increase for the group employing 1-9 wage workers results partly from three observations that are more than 20 years old, whereas no other observations are more than 14 years old.

(Source: Steel 1977, 93)

Appendix 23

Imported Share of Raw Materials and Spare Parts for Small-Scale Manufacturing: Accra, 1973 Survey (average percentage share for firms in each industry)

ISIC Code and Industry	Raw Materials	Spare Parts
3116-17 Milling, baking	11.4[a]	94.2
322-23 Clothing, travel bags	61.9	89.3
332 Furniture	42.4	100.0
342 Printing	99.9	89.2
352 Paints, chemical products	75.0	95.0
369 Cement products	0.0[b]	50.0
381-82 Metal products	57.4	99.0
390 Jewelry, miscellaneous	98.5	99.3
Total, all industries	60.7	91.1

[a] Imported wheat is milled in Ghana to produce flour for baking.

[b] Cement for block making is purchased from a factory in Ghana that grinds imported clinker into cement. Hence, the true import content is quite high.

Source: 1973 Accra manufacturing survey.

(Source: Steel, 1977, 128)

Appendix 24

Sources of Supply of Raw Materials and Spare Parts for Small-Scale Manufacturing: Accra, 1973 Survey (percentage of firms in each size category)

Size Category of Firm	Local Producer	Imported Directly by Firm	Large Trading Firm[a]	Other Importing Firm[b]	Middlemen, Bought in Market
Raw Materials					
Primary source					
< 10 workers	12.5	3.1	18.9	31.3	34.4
10-29 workers	18.2	54.5	13.6	13.6	0.0
Primary plus secondary source					
< 10 workers	21.9	3.1	31.3	46.9	53.1
10-29 workers	50.0	63.6	18.2	22.7	27.3
Spare Parts					
Primary source					
< 10 workers	7.7	2.6	25.6	56.4	7.7
10-29 workers	0.0	63.2	0.0	36.8	0.0
Primary plus secondary source					
< 10 workers	17.9	2.6	33.3	56.4	12.8
10-29 workers	15.8	63.2	0.0	42.1	5.3

[a] Ghana National Trading Corporation, United Africa Company, and Union Trading Company.

[b] Including large-scale manufacturers in the same industry.

Source: 1973 Accra manufacturing survey.

(Source: Steel, 1977, 129)

Appendix 25

Distribution of enterprises by capital
(per cent)

ISIC code	Activity	Fixed capital in cedis[a] (original purchase value)						
		1-50	51-100	101-250	251-600	601-1000	1000	Total
9513	Motor repair and maintenance	0.0	0.0	6.8	28.4	23.0	41.9	100.0
3813, 3819	Metalworking	0.0	0.0	10.0	10.0	30.0	50.0	100.0
3811	Blacksmithing	0.0	0.0	11.1	22.2	11.1	55.5	100.0
3311	Carpentry	0.0	5.9	50.0	32.4	5.9	5.9	100.0
3220	Tailoring/ seamstressing	2.8	2.8	19.6	42.3	21.1	11.4	100.0
3319	Woodcarving	0.0	14.3	14.3	14.3	14.3	42.9	100.0
3320	Cane weaving	44.4	0.0	44.4	11.3	0.0	0.0	100.0
3214	Carpets/ doormats	100.0	0.0	0.0	0.0	0.0	0.0	100.0
3233, 3240	Footwear/ leatherware	30.4	29.0	24.5	8.6	4.3	2.9	100.0
All activities		10.7	8.4	20.5	24.8	15.1	20.5	100.0

[a] 1 cedi = US$0.87.

(Source: Sethuraman, 1981, 95)

Appendix 26

Employment by Branch of Activity

Branch of activity	Establishments		Workers		Ratio of workers to enterprises: Col. (4) ÷ Col. (2)
	Number (1)	Percent (2)	Number (3)	Per cent (4)	(5)
1. Tailoring	1,132	17.0	1,846	11.7	1.63
2. Trading	3,963	59.4	4,935	31.2	1.25
3. Laundry	17	0.3	29	0.2	1.71
4. Carpentry	107	1.6	231	1.5	2.16
5. Brick making	21	0.3	80	0.5	3.81
6. Embroidery	24	0.4	66	0.4	2.75
7. Cloth washing	67	1.0	82	0.5	1.22
8. Bicycle repairing	122	1.8	153	0.9	1.25
9. Sewing	12	0.2	25	0.2	2.1
10. Bakery	22	0.3	107	0.7	4.86
11. Butchery	32	0.5	49	0.3	1.53
12. Animal feeding	8	0.1	13	0.08	1.63
13 Barbering	71	1.0	96	0.6	1.4
14 Grinding	71	1.0	88	0.6	1.24
15. Photography	78	1.1	148	0.9	1.9
16. Blacksmithing	13	.2	27	0.2	2.1
17. Shoemaking	157	2.4	233	1.5	1.5
18. Shoe-shining	65	0.9	65	0.4	1.0
19. Knitting	118	1.8	162	1.0	1.4
20. Dry cleaning	36	0.5	47	0.3	1.3
21. Mechanics	112	1.7	283	1.8	2.52
22. Driving	14	0.2	24	0.2	1.71
23 Fishing	1	0.01	4	0.03	4.0
24. Porter services	3	0.05	3	0.02	1.0
25. Nail cutting	11	0.2	11	0.07	1.0
26. Watch repairing	22	0.3	28	0.2	1.3

(Source: ILO, 1977, 129)

Appendix 27

Distribution of Enterprises by Initial Capital Investment and by Type of Enterprise

Capital (N) / Class of Enterprise	Per cent										Number total
	1-10	11-20	21-50	51-100	101-200	201-500	501-1000	1001-5000	+5000	Total	
Processing	24.3	10.8	2.7	8.1	13.5	16.2	13.5	10.8	-	100.0	37
Repairs	38.7	16.1	22.6	12.9	9.7	-	-	-	-	100.0	31
Personal Services	39.4	10.5	22.4	13.2	9.2	3.9	-	1.3	-	100.0	76
Agric. Services	27.2	18.2	22.7	18.2	9.1	4.5	-	-	-	100.0	22
Trading and other Services	26.1	4.3	11.6	7.2	10.1	13.2	2.9	8.7	5.8	100.0	69
Tech. Services	19.7	5.3	7.9	17.1	18.4	23.7	7.9	-	-	100.0	76
Fabrication	26.1	7.4	14.7	17.2	15.3	13.5	2.5	2.5	0.6	100.0	163
Unclassified	16.1	16.1	25.8	16.1	-	3.2	6.5	16.1	-	100.0	31
OVERALL	27.4	8.9	15.0	14.3	12.5	13.3	3.8	4.0	1.0	100.0	505

Source: Field Survey, 1976.

(Source: ILO, 1977, 60)

Appendix 28

Percentage Distribution of Participants in Informal Sector Enterprise Classified by Major Categories of Activity

Major Category of Activity	Percentage Distribution of Participants	Estimated Number of Participants
Trade & Commerce	52.09	17,913
Manufacturing and Processing	14.14	4,862
Services	23.80	8,184
Transport	6.19	2,128
Agriculture and Fishing	2.57	883
Construction	1.21	420
All Categories of Activity	100.00	34,390

(Source: The Marga Institute, 1979, 29)

Appendix 29

Percentage Distribution by Operational Size of Informal Sector Enterprises Classified by Major Categories

Major Categories	Operational Size of Units					
	One Member	Two Member	Three Member	Four Member	Five Member	Six/More Member
Trade & Commerce	49.36	1.63	1.24	0.80	0.64	0.56
Manufacturing & Processing	7.14	1.60	1.14	0 62	0.33	0.41
Services	18.62	1.50	1.23	0.57	—	0.58
Transport	7.39	0.18	0.22	—	0.08	—
Agriculture & Fishing	1 88	03.3	0.39	0.16	—	—
Construction	0.90	0.45	0.06	—	—	—
All Categories	85.29	5.69	4.29	2.15	1.05	1.53

(Source: The Marga Institute, 1979, 30)

Appendix 30

Percentage Distribution of Informal Sector participants and Urban Employed Population classified by age and sex

Age Group	Informal Sector participants		Urban employed population	
	Male	Female	Male	Female
10—19	8.25	0.64	7.16	1.49
20—29	27.96	1.13	27.75	4.29
30—39	21.84	1.75	21.86	3.59
40—49	15.57	4.63	16.85	2.40
50—59	9.34	1.78	9.67	1.12
60 & above	5.40	1.71	3.37	0.45
All ages	88.37	11.64	86.66	13.34

Source: Census 1971

(Source: The Marga Institute, 1979, 85)

Appendix 31

Percentage Distribution of Participants' Daily Earnings Classified by Sex

Daily earnings (Rs)	Percentage	
	Males	Females
0 - 9	22.46	1.90
10 - 19	23.67	3.09
20 - 29	12.04	1.95
30 - 39	6.27	1.06
40 - 49	2.85	.79
50 - 100	11.64	2.19
100 - 250	6.12	.50
250 - 500	1.81	.15
Over 500	1.50	—
Total	88.36	11.64

(Source:The Marga Institute, 1979, 35)

Appendix 32

Distribution of enterprises by size of fixed capital owned

Fixed capital owned per enterprise (pesos)	Number of enterprises	Per cent
None	622	25.3
Less than 500	509	20.4
500 - 999	299	12.0
1 000 - 1 999	230	9.0
2 000 - 4 999	344	13.8
5 000 - 9 999	225	9.0
10 000 - 14 999	75	3.0
15 000 and above	189	7.5
All	2 492	100.0

(Source: Sethuraman, 1981, 133)

Appendix 33

Value added and employment per unit of capital, by size of enterprise

Size of enterprise	Investment of 1 million pesos	
	Employment (persons)	Value added (million pesos)
(a) Manila informal manufacturing sector (<10 persons)[1] survey 1976	491	2.68
(b) Organised manufacturing in the Philippines, 1970[2]		
5 - 19	225	0.96
20 - 49	112	0.98
50 - 99	95	1.24
100 - 199	65	1.25
200 - 499	47	1.18
500+	59	1.11
5+	70	1.13
(c) Greater Manila small-scale and medium industry survey, 1972[3]	190	1.01

[1] Based on the Manila Informal Sector Survey, 1976. Employment and value added resulting from an investment of 1 million pesos in fixed capital excluding land and buildings. Value added includes depreciation.

[2] Source: Derived from ILO: Sharing in development: A programme of employment, equity and growth for the Philippines (Geneva, 1974), Table 126, p. 533.

[3] Source: ibid., p. 544.

(Source: Sethuraman, 1981, 125)

Appendix 34

Differential participation rates of employed population in informal sector activities and informal sector employment by sex and migrant status in Greater São Paulo, 1970 (using sector criterion) (percentage)

Migrant status	Participation rates of employed population in informal sector activities		Informal sector employment	
	Male	Female	Male	Female
Non-migrants	32.1	42.2	61.2	52.5
Migrants, residence 6-10 years	34.5	53.7	12.7	14.4
Migrants, residence 2-5 years	34.6	59.1	8.7	11.7
Migrants, residence less than 2 years	37.9	65.2	17.4	21.4
Total	33.1	48.9	100.0	100.0

Source: IBGE: *Censo demográfico*, 1970, special tabulations prepared for SERFHAU.

(Source: Schaefer, 1976, 69)

Appendix 35

Differential participation rates of employed population in informal sector activities and informal sector employment by migrant status in Greater São Paulo, 1970 (using minimum wage criterion [1]) (percentage)

Migrant status	Participation rates of employed population in informal sector activities	Informal sector employment
Non-migrants	28.6	55.3
Migrants, residence 6-10 years	36.7	13.6
Migrants, residence 2-5 years	41.9	10.4
Migrants, residence less than 2 years	51.0	20.5
Total	34.6	100.1

[1] Persons earning less than Cr.$ 200.

Source: IBGE: *Censo demográfico*, 1970, special tabulations prepared for SERFHAU.

(Source: Schaefer, 1976, 69)

Appendix 36

Differential participation rates of employed population in informal activities and informal sector employment by sex and migrant status in Greater São Paulo, 1970 (using minimum wage criterion) (percentage)

Migrant status	Participation rates of employed population in informal sector activities		Informal sector employment	
	Male	Female	Male	Female
Non-migrants	20.8	47.1	55.1	55.5
Migrants, residence 6-10 years	26.4	59.5	13.4	14.3
Migrants, residence 2-5 years	30.2	65.9	10.0	11.0
Migrants, residence less than 2 years	39.4	73.3	21.5	19.2
Total	24.8	54.1	100.0	100.0

Source: IBGE: *Censo demográfico*, 1970, special tabulations prepared for SERFHAU.

(Source: Schaefer, 1976, 70)

Appendix 37

RELATIVE FREQUENCY OF HOUSEHOLDS WHICH CONSUME INFORMAL SERVICES, BY PARTY RESPONSIBLE FOR THE SERVICE AND BY TYPE OF SERVICE—SALVADOR, APRIL 1978

(percentages of number of informant households)

Type of informal services	Party responsible for the service				
	Formal sector	Informal sector	Other	Member of household	Total
Scissor sharpening	-	100.0	-	-	100.0
Construction	4.9	80.5	-	14.6	100.0
Carpentry	-	100.0	-	-	100.0
Gardening	-	100.0	-	-	100.0
Television repair	34.8	63.8	-	1.4	100.0
Automobile repair	35.0	60.0	5.0	-	100.0
Shoe repair	5.9	88.2	-	5.9	100.0
Radio and record player repair	39.1	56.5	4.3	-	100.0
Plumbing repair	-	100.0	-	-	100.0
Electricity	20.0	60.0	-	20.0	100.0
Unclogging sewers and drains	-	85.7	-	14.3	100.0
Tinsmith	-	100.0	-	-	100.0
Cleaning	-	100.0	-	-	100.0
Painting	-	50.0	-	50.0	100.0
Services of personal grooming	15.2	72.7	-	12.1	100.0
Others	20.0	80.0	-	-	100.0

SOURCE: Research from IJNPS.

(Source: Cavalcanti, 1981, 149)

Appendix 38

Characteristics of small firms in trade and selected services, Bogotá, 1970

Sector[1]	Number of establishments	Number of workers			Workers per establishment
		Men	Women	Total	
Retail trade	29 685	27 540	23 025	50 565	1.7
Restaurants and hotels	6 475	5 425	9 370	14 795	2.3
Repairs and personal services	7 415	10 660	2 470	13 130	1.8
All three sectors	43 575	43 625	34 865	78 490	1.8

Source: DANE: Censo economico 1970, special tabulations (Bogotá, August 1973). All statistics shown are grossed up on the basis of a 20 per cent sample.

(Source: Lubell and McCallum, 1978, 101)

Appendix 39

Distribution of workers by type of production unit and type of occupation, Bogotá, 1974 (per cent)

Type of production unit / Type of occupation	Single worker units	Family units	Small and medium units	Larger units	Total (%)	Total (number)[1]
Liberal professions, technicians and related occupations	-	2.8	21.3	9.3	9.7	(52 659)
Managers, administrators and financiers	-	12.4	7.3	3.3	6.7	(36 372)
Office workers	1.0	7.1	22.1	35.4	17.7	(96 089)
Owner-vendors	35.8	18.0	1.0	0.6	11.3	(61 345)
Employed vendors	4.0	8.4	8.4	3.0	6.4	(34 744)
Travelling salesmen	1.0	0.3	1.3	0.4	0.8	(4 343)
Other vendors	2.8	0.2	-	-	0.5	(2 7[illegible]4)
Occupations related to working the land	2.9	1.4	-	-	0.8	(4 343)
Drivers	1.9	8.8	0.3	2.2	3.5	(19 001)
Artisans and operators	36.1	34.7	29.2	32.8	32.7	(177 519)
Personal service workers	14.5	5.9	9.2	13.0	9.9	(53 744)
Total	100.0	100.0	100.0	100.0	100.0	
Total (number)[1]	(78 119)	(162 701)	(168 113)	(133 940)		(542 873)
Percentage of response	85.4	94.3	88.0	87.7	86.1	

[1] Inflated to estimated Bogotá total.

(Source: Lubell and McCallum, 1978, 91)

Appendix 40

Distribution of heads of enterprises by occupation

Occupation	Informal sector	Quasi-formal sector	Total
Professional	4(..)	45(3.4)	49(2.0)
Managers	1(..)	51(3.8)	52(2.1)
Clerical and related	-	16(1.2)	16(0.6)
Working proprietors (trade)	165(14.7)	405(30.5)	570(23.3)
Sales workers	77(6.9)	134(10.1)	211(8.6)
Working proprietors (hotel)	13(1.1)	27(2.0)	40(1.6)
Maids, etc.	409(36.5)	-	409(16.7)
Barbers, beauticians, etc.	45(4.0)	28(2.1)	73(3.0)
Tailoring	118(10.5)	31(2.3)	149(6.1)
Wood and related manufacturing	1(..)	34(2.6)	35(1.4)
Metalworkers	-	36(2.7)	36(1.5)
Fitters	6(..)	54(4.1)	60(2.4)
Electricians, etc.	3(..)	23(1.7)	29(1.2)
Plumbers, etc.	3(..)	58(4.4)	61(2.5)
Painters	18(1.6)	46(3.5)	64(2.6)
Bricklayers and other construction workers	54(4.8)	155(11.7)	209(8.5)
Transport equipment operators	-	61(4.6)	61(2.5)
Other occupations	202(18.0)	123(9.3)	325(13.3)
	1 119(100.0)	1 327(100.0)	2 446(100.0)

Note: Figures in parentheses are percentages.

(Source: Sethuraman, 1981, 148)

Appendix 41

Distribution of heads of enterprises by income level and sex (per cent)

	Income (hundreds of pesos per month)			
	Low under 800	Medium 801-4 000	High 4 000+	Total
I. Own-account workers without fixed location				
Informal				
Men	80.4	18.9	0.7	100.0
Women	97.8	1.9	0.3	100.0
Quasi-formal				
Men	23.7	56.4	19.9	100.0
Women	26.0	48.1	26.0	100.0
Both				
Men	39.0	46.2	14.8	100.0
Women	85.0	10.1	4.9	100.0
II. Heads of enterprises with fixed location				
Informal				
Men	100.0	-	-	100.0
Women	100.0	-	-	100.0
Quasi-formal				
Men	-	65.7	34.3	100.0
Women	-	88.5	11.5	100.0
Both				
Men	23.1	50.5	26.4	100.0
Women	55.9	39.0	5.1	100.0

(Source: Sethuraman, 1981, 154)

Appendix 42

Distribution of enterprises by activity and age of business (per cent)

Age of business (years)	Manufacturing	Construction	Trade	Services*	Other*	Total
Own-account workers without fixed location						
Under 1	10.0	3.4	10.5	4.2	10.9	6.8
1- 2	4.8	7.9	8.0	10.9	11.7	8.9
2- 5	21.4	5.2	15.4	16.5	20.4	15.7
5-10	13.6	20.3	24.7	25.1	29.2	22.4
10+	50.2	63.1	41.4	43.2	27.7	46.2
All	100.0	100.0	100.0	100.0	100.0	100.0
	(331)	(290)	(324)	(713)	(137)	(1 795)
Establishments in fixed locations						
Under 1	-	-	4.4	1.7	7.1	3.6
1- 2	3.4	-	9.3	1.7	14.3	7.5
2- 5	13.8	-	24.5	16.1	42.8	22.6
5-10	6.9	100.0	20.7	21.2	21.4	20.2
10+	75.9	-	41.1	59.3	14.3	46.1
All	100.0	100.0	100.0	100.0	100.0	100.0
	(29)	(1)	(387)	(118)	(14)	(549)

* Insurance, real estate and related services are included under "other" category which also includes primary activities and transport.

Note: Figures in parentheses indicate the number of sample units.

(Source: Sethuraman, 1981, 155)

Appendix 43

Cost of Flour per 240 half-kilo loaves

Category of Bakery	Bread weight (gms)			Cost of flour (shs)			Cost per 240 loaves (shs)				
	Average	St. Dev.	N	Average	Std. Dev.	N	Average	Std. Dev.	N	t	Sig.
Environment											
Rural	495.3	34.7	21	214.26	7.7	21	212.31	14.95	22	(.54)	NS
Urban	509.2	19.2	25	206.93	3.3	25	210.39	8.1	25		
Size (bags p a)											
0 - 2,500	503.9	27.8	12	214.14	9.1	12	215.56	11.3	12	(.74)	NS
2,500 - 10,000	507.2	33.8	18	209.00	4.8	18	211.14	12.3	18	(.98)	NS
10,000 - 20,000	500	24.1	9	207.55	4.7	9	207.33	9.3	9		
20,000 - 50,000	495.6	16	4	208.40	2.2	4	206.53	5.4	4		
50,000 - 100,000	492.7	-	1	206.55	-	1	203.53	-	1		
Over 100,000	506.7	-	1	206.55[1]	-	1	209.24	-	2		
Technology											
brick	502.2	35	13	216.74	8.4	13	217.25	15.7	13	(1.74)	NS
tube	505	24.6	26	207.85	4.1	26	209.17	9.1	33		
tunnel	500	10	2	206.66	-	2	207.34	3.30	3		

1. Assuming that Elliots pay shs 206.55 for their flour.

* Significant at 0.1% level, t test conducted on samples over eight.

** " " 1% " " " " " " " "

(Source: Kaplinsky, 1981, 131)

Appendix 44

Costs of other inputs per 240 loaves

	Other ingredients(a) (sh)	Wrapping	Total				
			Average	Std dev	N	t	Sig
Location							
rural	14.40	16.91	31.31	2.58	22	(.89)	NS
urban	14.40	15.64	30.04	6.73	26		
Size (bags p a)							
0 - 2,500	14.40	13.27	27.67	6.15	14	1.61	NS
2,500 - 10,000	14.40	15.87	30.27	3.04	19		
10,000 - 20,000	14.40	17.29	31.69	1.41	10	(1.72)	9.2%
20,000 - 50,000	14.40	21.71	36.11	6.39	4		
50,000 - 100,000	14.40	31.66	46.06	0	1		
Over 100,000	14.40	30.79	45.19	0	2		
Technology							
brick	14.40	13.92	28.32	6.83	13	1.37	NS
tube	14.40	16.65	31.05	3.57	34		
tunnel	14.40	31.08	45.48	.50	3		

(a) Assumed constant for all bakeries (see text).

(Source: Kaplinsky, 1981, 134)

Appendix 45

Production Characteristics of Builders Hardware, Sri Lanka, 1973

No.	Sector	Building Materials	No. of establishment	Employment (direct) in Rs. 1 M production (no. of persons)	Capital assets per worker (m.v.) Rs.	Machinery and tools per worker (m.v.) Rs.	Capital output ratio (m.v.)
1	small scale	Brass	19	140	1,400	700	0.2
2	modern medium scale	Brass	6	170	4,600	2,200	0.8
3	modern industrial	Brass, steel	1	100	25,000	20,000	2.5

(Source: Ganesan, 1981, 202)

Appendix 46

PRODUCTION CHARACTERISTICS OF DIFFERENT ROOFING MATERIALS IN SRI LANKA, 1973

No.	Sector	Building material	No. of estabs	Total employ. in Rs. 1 M production No. of persons	Capital assets per worker (m.v.) Rs.	Machinery and tools per worker (m.v.) Rs.	Capital output ratio (m.v.)	Foreign exchange content in output %	Capacity utilization %
1	traditional	country tiles	4	960	500	6	0.5	0	63
2	modern-medium scale	flat tiles	5	220	6400	2500	0.9	10	65
3	modern-industrial	flat tiles	1 (6 factories)	220	11000	5700	1.5	10	75
4	modern-industrial	asbestos-cement products	2	23	12000	5100	0.2	41	68
5	modern-industrial	G.I. sheets	1	7	82000	n.a.	0.6	82	n.a

m.v. – market value.

(Source: Ganesan, 1981, 26)

Appendix 47

Foreign Exchange Requirements in Production of Building Materials, Sri Lanka, 1973

No.	Building material	Foreign exchange cost as % value of output at ex-factory price				Total foreign exchange cost (3) Rs. M.
		Raw materials	Energy(1)	Maintenance (+ depreciation)(2)	Total	
1.	Cement(4)	6	13	6	24	20
2.	Cement products	0	8	0	8	
3.	Steel products	53	2	2	57(5)	32
4.	Timber	0	2	1	3	3
5.	Bricks	0	0	0	0	0
6.	Tiles	0	8	2	10	2
7.	Aggregate	6(6)	4	2	12	3
8.	Sand	0	0	0	0	0
9.	Earth, clay, etc.	0	0	0	0	0
10.	Lime	0	0	0	0	0
11.	Asbestos cement products	39	0	1	41	13
12.	Special steel fixtures	–	–	–	100(7)	15
13.	Paint, varnish, etc.	60	0	1	61	4
14.	Hardware	32	4	2	38	12
15.	Sanitary-ware	13	4	2	19	2
16.	Sanitary pipes	37	2	4	43	4
17.	Electrical fittings	46	1	4	51	12
18.	Cadjan	0	0	0	0	0

(1) Mostly furnace oil and resources for generation of electricity locally.

(2) Assumed to be three percent of replacement value of machinery and tools which is considered essential for purchase of spare parts and to meet at least part of depreciation cost of imported machinery.

(3) Adding foreign exchange required in other materials, transport, and plant and equipment, total requirement in 1973 for all construction was approximately Rs. 200 M.; together with other requirements, final requirement of foreign exchange was about 10% of gross foreign exchange earnings of Sri Lanka in 1973. This figure (10%) does not include foreign resources required for new investment in the building materials sector. The percentage is probably much higher today.

(4) Crude estimate after oil price increases in 1973 and 1974. The largest component is from import of furnace oil: Import of gypsum and paper for cement bags also included under 'raw materials'.

(5) This figure is also much higher today.

(6) Mostly blasting powder.

(7) Wholly imported.

Note: Discrepancies due to rounding.

(Source: Ganesan, 1981, 200)

Appendix 48

Characteristics of the 'lower' forms of production

Table 2: Types of Production Activity

2a: Workshops	No. of units
graded iron castings	8
rough castings	8
aluminium & gun-metal castings	2
electroplating	4
structural metals	2
steel furniture	6
metal vessels	4
manufacturing of springs	2
manufacturing of metal parts	7
agricultural machinery	3
wet grinders	5
textile machinery & spares	5
pumps,pump spares & motors	8
machine shop	11
plastics,glass fibre parts	9
others	3
TOTAL:	87

2b: Petty Commodity Producers

'Traditional' occupations:

Shoe, sandal makers and leather workers (21); goldsmiths (7); basketmakers (2): weavers (2); carpenters (4); tailors (2); tinkers (5); mat-maker (1); stone-mason (1); eatables makers (7)

Total: 52

'New' occupations:

lathe-shop operators (8); welders (7) vessels manufacturer (1); pattern-makers (2); aluminium & gun-metal casters (3): cycle repair (6); 2-wheeler repair (3); frame-maker (2)

Total: 32

TOTAL: 84

(Source: Harriss, 1982, 14)

Appendix 49

Occupations of Household Heads in 'Slum' Households

1. Permanent wage workers	141	(17%)
2. Short-term wage workers	151	(18%)
3. Casual wage-workers	246	(30%)
4. Dependent workers) 5. Self-employed workers)	238	(29%)
Others (including 26 agricultural coolies; 2 cultivators; 19 unemployed; 2 dependent persons and 1 beggar)	50	

(Source: Harriss, 1982, 31)

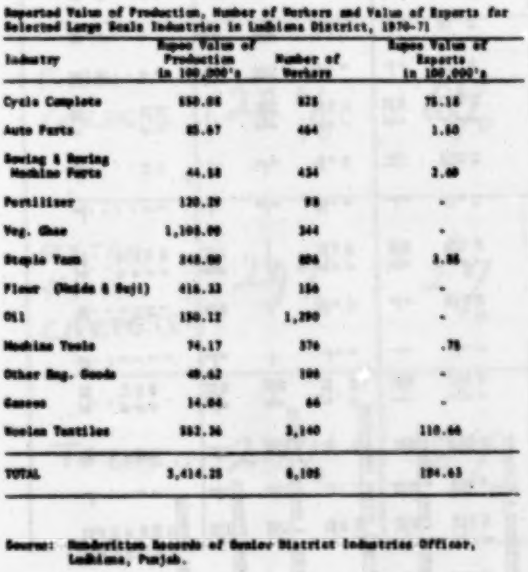
Appendix 50

'Linkages' of Petty Commodity Producers

	traditional activities	new activities
'Disguised Wage Workers'	10	4
'Dependent Workers'	15	4
'Self-employed'	25	24
Nature of product		
Consumer goods	41	10
Parts/service	9	21
'Producer' goods		1
Supply to 'large scale industry'	3	9
Work for labour charges	16	24
Dependent on advances – from customers	3	7
– from traders	14	1
– from money-lenders	7	14

(Source: Harriss, 1982, 29)

Appendix 51



Reported Value of Production, Number of Workers and Value of Exports for Selected Large Scale Industries in Ludhiana District, 1970-71

Industry	Rupee Value of Production in 100,000's	Number of Workers	Rupee Value of Exports in 100,000's
Cycle Complete	550.08	825	75.18
Auto Parts	85.67	464	1.80
Sewing & Sewing Machine Parts	44.18	434	2.00
Fertiliser	120.29	98	-
Veg. Ghee	1,108.09	344	-
Staple Yarn	248.00	806	3.86
Flour (Maida & Suji)	416.33	156	-
Oil	150.12	1,290	-
Machine Tools	74.17	376	.75
Other Eng. Goods	48.62	108	-
Gases	14.04	66	-
Woolen Textiles	552.36	3,140	110.66
TOTAL	3,414.25	8,105	194.63

Source: Handwritten Records of Senior District Industries Officer, Ludhiana, Punjab.

(Source: Wall, 1973, 101)

Appendix 52

Group and Sub-Group Wise Information Regarding Basic Statistics of Ludhiana District's Small Scale Industries Through 1970-71

Group or Sub-group		Upto 31-3-67			During 1967-68			During 1968-69			During 1969-70			During 1970-71		
					(Investment Figures in Hundreds of Thousands)											
		unit	wrk	invt	unit	wrk	invt	unit	wrk	invt	unit	wrk	invt	unit	wrk	invt
*1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.	20-21 Food Processing Industries															
1	Dairy Farming	-	-	-	-	-	-	-	-	-	-	-	-	12	16	0.71
2	Aerated Water	2	12	0.29	1	23	2.38	-	-	-	-	-	-	-	-	-
3	Flour Milling	10	30	2.71	4	8	1.18	-	-	-	12	28	1.88	8	17	10.70
4	Food Misc.	10	41	2.71	1	1	0.52	1	7	1.10	-	-	-	1	4	0.45
5	Bakery Products	8	40	1.18	-	-	-	2	15	0.20	2	9	0.55	2	11	0.05
6	Edible Oils	25	1270	44.87	6	148	14.01	1	29	1.20	1	5	0.04	-	-	-
7	Ice Manuf.	4	29	3.11	-	-	-	-	-	-	1	7	0.42	1	6	0.53
8	Poultry	6	19	0.20	-	-	-	-	-	-	-	-	-	36	45	3.05
	Total	66	1458	55.26	12	180	18.09	4	51	2.50	16	49	2.89	60	139	15.51
2.	23 Manufacture of Textiles															
1	Cotton Spg. Weaving	682	4190	135.19	23	123	1.76	53	277	14.81	40	170	6.48	62	326	4.41
2	Cotton Dyeing & Finishing	87	505	28.65	8	44	1.09	18	141	4.35	11	57	3.81	8	84	1.48
3	Woolens	44	750	87.53	6	147	7.92	10	288	28.73	10	250	18.42	19	400	23.75
4	Hosiery	1861	9652	445.99	112	425	5.60	139	884	37.91	330	2027	85.50	193	1108	39.05
5	Nubbing	3	42	0.34	1	2	0.01	-	-	-	-	-	-	1	31	0.11
6	Cotton Ginning	2	34	1.45	-	-	-	-	-	-	-	-	-	-	-	-
	Total	2589	15272	699.15	150	741	16.38	220	1590	85.80	391	2504	114.61	283	2029	68.80
3.	25 Manufacture of Wood & Cork															
1	Wooden Boxes	43	106	2.18	-	-	-	2	17	0.84	1	3	0.06	11	54	0.80
2	Sawing	1	2	0.21	-	-	-	-	-	-	-	-	-	-	-	-
	Total	44	108	2.39	-	-	-	2	17	0.84	1	3	0.06	11	54	0.80
4.	26 Manufacture of Furniture & Fixtures															
1	Wooden Furniture	14	46	2.10	6	39	1.35	6	20	1.75	13	51	0.72	19	51	0.14
2	Steel Furniture	6	45	1.44	4	22	0.38	2	9	0.12	6	15	0.40	2	7	0.06
	Total	20	91	3.54	10	61	1.73	8	29	1.87	19	66	1.12	21	58	0.20
5.	27 Manufacture of Paper & Paper Products															
1	Card Board Box	6	32	23.50	18	69	1.25	1	9	0.04	3	13	0.30	7	31	1.94
	Total	6	32	23.50	18	69	1.25	1	9	0.04	3	13	0.30	7	31	1.94
6.	28 Printing, Publishing & Allied Industries															
1	Print.& Publ.	20	121	3.28	2	10	0.07	5	15	0.05	9	46	1.77	8	31	0.58
2	Stationery	2	8	0.09	-	-	-	2	9	0.15	1	8	0.50	2	13	0.11
	Total	22	129	3.37	2	10	0.07	7	24	0.20	10	54	2.27	10	44	0.69
7.	29 Manufacture of Leather & Leather Products															
1	Foot Wear	9	37	0.42	3	31	0.29	-	-	-	6	8	0.07	53	104	0.55
	Total	9	37	0.42	3	31	0.29	-	-	-	6	8	0.07	53	104	0.55
8.	30 Manufacture of Rubber Products															
1	Rubber Goods	10	50	1.64	3	21	0.44	4	30	0.72	-	-	-	6	27	0.25
	Total	10	50	1.64	3	21	0.44	4	30	0.72	-	-	-	6	27	0.25
9.	31 Chemical & Chemical Products															
1	Cosmetics	1	3	0.02	-	-	-	1	2	0.04	3	11	0.48	2	7	0.09
2	Soap	116	388	19.68	5	12	0.46	2	17	0.16	5	15	0.38	16	45	0.71
3	Plastic Goods	17	113	7.50	3	10	0.05	1	11	0.22	-	-	-	-	-	-
4	Ink	3	7	19.40	1	5	0.13	2	4	0.12	-	-	-	-	-	-
5	Paint & Varnish	3	12	0.62	-	-	-	-	-	-	-	-	-	-	-	-
6	Misc. Chemical	2	9	0.85	-	-	-	-	-	-	-	-	-	2	6	0.13
	Total	142	532	48.07	9	27	0.64	6	39	0.54	8	26	0.86	20	58	[illegible]
10.	33 Manufacture of Non-Metallic Minerals															
1	Lab Goods	2	22	0.57	4	17	0.42	2	7	0.11	6	10	1.55	4	13	0.34
2	Cement Screens	15	30	0.58	2	2	0.04	-	-	-	1	1	0.01	-	-	-
3	Miscellaneous	5	12	0.50	-	-	-	-	-	-	-	-	-	-	-	-
	Total	22	64	1.65	6	19	0.46	2	7	0.11	7	20	1.56	4	13	0.34
11.	34 Basic Metal Products															
1	Casting & Forg.	150	775	25.30	8	36	1.10	5	22	1.23	23	193	23.77	7	40	0.22
2	Wire Drawing & Rerolling	32	437	33.04	6	107	3.80	2	36	3.54	7	114	3.01	12	218	4.72
3	Metal Products	6	32	2.61	2	5	0.45	-	-	-	-	-	-	-	-	-
	Total	191	1244	61.04	16	148	5.35	7	58	4.77	30	307	27.38	19	258	4.94
12.	35 Manufacture of Metal Products Except Machinery															
1	Sheet Fabric.	139	422	16.15	3	31	0.41	5	13	0.35	8	28	0.41	26	80	1.00
2	Nuts & Bolts	67	483	16.38	8	51	1.15	11	127	9.85	23	233	10.19	17	88	2.06
3	Wire Products	34	260	20.20	1	3	0.04	2	8	0.25	-	-	-	2	8	0.25
	Total	240	1165	52.73	12	85	1.60	18	148	10.45	31	261	10.60	45	176	3.40
13.	Manufacture of Machinery Except Electrical															
1	Agric Implem.	65	54	7.95	4	30	0.78	19	129	7.56	42	153	6.78	107	275	10.56
2	Sewing Mac Parts	124	1237	27.26	14	106	2.58	16	310	13.51	27	331	23.75	18	111	1.01
3	Mach. Tools	253	3438	123.52	21	112	2.54	15	185	12.06	17	126	19.73	21	121	32.00
4	Text. Mach.	37	173	10.60	3	11	0.40	3	28	0.48	4	16	1.35	5	20	0.43
5	Oil Mill Mach.	21	277	9.36	5	38	2.53	1	3	0.10	-	-	-	5	16	0.26
6	Combust.Eng.	1	9	0.10	4	11	0.50	14	36	12.40	21	112	4.46	10	40	1.51
7.	Ind Machines	24	127	3.30	3	20	0.54	2	8	0.38	2	11	0.40	8	58	2.41
8	Bobbins	1	2	0.25	-	-	-	-	-	-	-	-	-	-	-	-
9	Small Tools	1	8	0.03	-	-	-	-	-	-	-	-	-	-	-	-
10	Hearing Aids	1	3	0.37	-	-	-	-	-	-	-	-	-	-	-	-
11	Scissors	1	4	0.05	-	-	-	-	-	-	-	-	-	-	-	-
	Total	1529	5312	183.18	54	337	9.87	70	699	47.28	115	749	57.56	174	641	48.81
14.	37 Electrical Machinery & Appliances															
1	Electrical Goods	71	554	24.27	4	58	0.76	2	19	1.06	2	7	0.31	7	35	0.51
2	Radio Parts	29	64	2.05	14	16	0.44	4	6	0.37	7	16	0.55	13	27	0.36
	Total	100	622	26.32	18	74	1.20	6	25	1.43	9	23	0.86	20	62	0.87
15.	38 Manufacture of Transport Equipment															
1	Bicycle Parts	620	4087	181.17	58	283	6.12	77	587	23.95	112	702	18.40	106	611	11.36
2	Auto Parts	174	1272	39.78	27	138	4.60	25	177	8.97	45	259	11.94	50	234	4.95
	Total	794	5359	220.95	85	421	10.72	102	764	32.92	157	961	30.34	156	845	16.31
16.	39 Miscellaneous Industries															
1	Enamelling	84	586	12.77	15	101	1.18	6	30	0.63	4	17	0.78	5	30	0.54
2	Toys	4	1	0.07	-	-	-	1	10	0.06	-	-	-	-	-	-
3	Med Instr.	9	75	5.00	-	-	-	12	136	1.47	1	2	0.09	-	-	-
4	Slates	3	42	1.75	1	1	0.01	-	-	-	3	10	0.29	-	-	-
5	Misc. Ind.	68	600	20.96	25	114	3.47	65	675	31.37	139	805	21.98	46	149	4.05
6	Optical Goods	3	11	1.17	-	-	-	-	-	-	-	-	-	-	-	-
7	Mathematical & Drawing Instr.	1	6	0.25	-	-	-	-	-	-	-	-	-	-	-	-
	Total	172	1321	41.97	41	216	4.66	84	851	33.53	147	834	23.14	51	179	4.59
	GRAND TOTAL	4967	32,813	1434.73	436	2540	72.73	521	4331	223.50	948	5803	280.22	963	4752	160.20

Source: Handwritten records of Senior District Industries Officer, Ludhiana District, Punjab.

(Source: Wall, 1973, 102-105)

Appendix 53

COSTS IN CARPET INDUSTRY

	Woollen Yarn	Cotton Yarn	LABOR EXPENSES	OTHERS	TOTAL.
COARSE CARPETS	39%	18%	35%	8%	100%
MEDIUM CARPETS	39%	8%	44%	9%	100%
FINE CARPETS	28%	6%	57%	9%	100%
EXTRA FINE CARPETS	24%	2%	66%	8%	100%
TOTAL.	27%	8%	47%	9%	100%

Source: S.P.O. weaving and clothing sector p.442

(Source: Ayata, 1979, 32)

Appendix 54

COSTS IN KAYSERİ CARPET INDUSTRY

ELEMENTS OF COST	PIECE WAGES	BAKSISH	TOTAL EXPENDITURE FOR LABOR	COTTON YARN	WOOLLEN YARN	TOTAL RAW MATERIAL	OTHER* EXPENDITURE ON LABOR	OTHERS	TOTAL. COST.
COSTS FOR ELEMENTS (T.L)	8400	300 T.L.	9100 T.L	1170 T.L.	5520 T.L	6690 T.L	400 T.L	595 T.L	16,385 T.L
% SHARE OF ELEMENTS	51%	2%	55%	7%	34%	41%	2%	4%	100%

(Source: Ayata, 1979, 31)

Appendix 55

Relative Economic Efficiency of Sample Techniques after Adjustments for Market Imperfections, 1976/7

Particulars	SECTOR		
	Handloom units	Powerloom units	Sample mills
(1)	(2)	(3)	(4)
(A) First Adjustment:			
1. Net output (Tk. mn.)	1.99	1.14	52.16
2. Net surplus (Tk.mn.)	0.15	0.48	-30.80
3. Capital/output (year)	1.24	3.85	6.90
4. Surplus/fixed capital(%)	8.42	12.79	-12.0
5. Surplus/total capital(%)	6.10	10.95	-8.6
(B) Second Adjustment			
1. Net output (Tk. mn.)	2.29	1.26	51.92
2. Net surplus(Tk. mn.)	0.45	0.60	-30.58
3. Capital/output(year)	1.07	3.49	6.90
4. Surplus/Fixed capital(%)	25.8	15.96	-11.9
5. Surplus/total capital(%)	18.4	13.7	-8.5

Notes: (a) All estimates for handloom/powerloom units reflect the imputation using assumption 2, for reasons already explained in section 3.3.3.4 above. Note that the second adjustment leaves net output and surplus of the mills virtually unaffected. This was anticipated in the text above.

Sources: Data from the sample surveys.

(Source: Chowdhury 1982, 300)

Appendix 56

Labour and Capital Productivity in Mill Spinning, 1975/6, 1976/7

Particulars	Spinner-weavers			Spinners	All spinning industry
	Old mills	New mills	All mills		
(1)	(2)	(3)	(4)	(5)	(6)
(A) Year: 1975/6					
1. Output (Tk. mn.)	36.39	182.50	216.69	235.08	453.97
2. Production workers(Nos.)	9123	20053	29176	14373	43549
3. Total employment (Nos.)	10710	23449	34159	17595	51754
4. Fixed capital(Tk.mn.)	33.11	423.77	456.88	450.56	907.44
5. Working capital(Tk.mn.)	52.06	345.62	397.68	264.08	661.76
6. Total capital (Tk.mn.)	85.17	769.39	854.56	714.64	1569.20
7. Output/prod'n worker,Tk	3989	9101	7502	16356	10424
8. Output/man employed(Tk.)	3398	7783	6408	13361	8772
9. Fixed capital/output	0.91	2.32	2.09	1.92	2.00
10. Working capital/output	1.43	1.89	1.82	1.12	1.46
11. Capital/output	2.34	4.21	3.90	3.04	3.46
(B) Year: 1976/7					
1. Output (Tk. mn.)	4.36	103.50	107.86	141.47	249.33
2. Production workers(Nos.)	8462	18318	26780	13951	40731
3. Total employment (Nos.)	9981	21564	31545	17323	48868
4. Fixed capital(Tk. mn.)	35.02	504.30	539.32	554.68	1094.0
5. Working capital,Tk.mn	27.87	257.04	284.91	214.87	499.78
6. Total capital(Tk.mn.)	62.89	761.34	824.23	769.55	1593.78
7. Output/prod'n worker(Tk.)	515	5650	4028	10140	6121
8. Output/man employed(Tk.)	437	4800	3419	8166	5102
9. Fixed capital/output	8.03	4.87	5.00	3.92	4.39
10. Working capital/output	6.39	2.48	2.64	1.52	2.00
11. Capital/output	14.42	7.36	7.64	5.44	6.39

Notes:(a) All estimates of output in this table are as they ought to be, i.e. in net output. All capital-output ratios are in years, because the output in question is measured over a year.

Sources:Data from the sample surveys.

(Source: Chowdhury, 1982, 322)

Appendix 57

Sources of Cash-credit for Handloom/Powerloom Owners Interviewed, 1976/7

(All figures, unless indicated, are Tk. 000s)

Particulars	Handloom units			Powerloom units
	1-14 (looms)	15+ (looms)	All units	
(1)	(2)	(3)	(4)	(5)
1. Credit from				
(i) Institutional sources	12.6	73.5	20.1	190.9
(ii) Friends/relatives	42.5	39.2	42.1	30.0
(iii) Non-institutional lenders	29.1	35.8	29.9	-
2. Total credit	84.2	148.5	92.1	220.9
3. Institutional credit/loan	4.6	12.2	5.5	27.3
4. Credit from friends/loan	2.1	6.6	2.6	15.0
5. Non-institutional credit/loan	2.3	9.6	3.2	-
6. Institutional credit/total credit (%)	13.4	49.2	17.8	86.4
7. Credit from friends/total credit (%)	50.0	20.9	46.4	13.6
8. Non-institutional credit/total credit (%)	36.6	23.6	35.0	-
9. Total credit/unit	0.98	5.60	1.55	22.1
10. Row 9 as % of the value of all assets/unit (%)	1.8	3.3	2.0	1.6

Note: Non-institutional sources mean money-lenders, traders, land-lords, etc.

Sources: Data from the sample surveys.

(Source: Chowdhury 1982, 245)

Appendix 58

Uses of Credit by Handloom and Powerloom Units, 1976/7

(All figures, unless indicated, are Tk. 000s)

Particulars	**Handloom units**			**Powerloom units**
	1-14 (looms)	**15+ (looms)**	**All units**	
(1)	(2)	(3)	(4)	(5)
(A): Loans for consumption				
(i) Number of loans	10.32	0.64	9.1	-
(ii) Amount	9.83	0.44	8.7	-
(iii) Average per loan	1.0	0.69	1.0	-
(iv) Interest rate (%)	24.1	-	21.1	-
(v) % of total credit (%)	11.7	-	9.5	-
(B): Loans for investment				
(i) Number of loans	23.34	10.6	21.8	9
(ii) Amount	68.5	126.6	75.6	220.9
(iii) Average per loan	2.94	11.8	4.0	24.5
(iv) Interest rate (%)	27.2	30.0	27.5	10.4
(v) % of total credit (%)	81.4	86.1	82.3	100
(C): Loans for social reasons				
(i) Number of loans	4.6	3.7	4.5	-
(ii) Amount	5.8	20.1	7.6	-
(iii) Average per loan	1.65	5.56	2.1	-
(iv) Interest rate (%)	21.6	62.8	26.6	-
(v) % of total credit (%)	6.7	13.7	8.2	-

Notes: Interest rates are weighted by respective credit quantities. Totals of credits reported in this and the next table may not add upto that reported in Table 5.20, due to non-reporting as well as rounding errors.

Sources:Data from the surveys.

(Source: Chowdhury, 1982, 248)

Appendix 59

Comparative Unit Production Cost of Narsingdi Handloom Units and the Sample Mills of Grey Fabric of 32s Count, 1976/7

(All figures, unless indicated, are Tk./yd.)

Particulars	Handloom units		Sample mills	
	Cost/ yard	(% of column total)	Cost/ yard	(% of column total)
(1)	(2)	(3)	(4)	(5)
Items of Cost:				
1. Yarn	4.99	76.6	3.97	70.8
2. Wage/salary	1.25	19.2	0.56	10.0
3. Stores/spares	0.20	3.1	0.46	8.2
4. Power	-	-	0.23	4.1
5. Interest	-	-	0.07	1.2
6. Others	0.07	1.1	0.32	5.7
7. Total cost of production	6.51	100	5.61	100

Notes:The percentages in cols. 3 and 5 need not add up to 100, due to rounding errors.

Sources:Data from the sample surveys.

(Source: Chowdhury, 1982, 312)

The above calculations for yarn prices assume:

a) a proportionate differential versus ex-mill price of 32s yarn charged in 1975/76;

b) a reduction in wages/salaries paid out by mills by 40%;

c) an imputation for family labour in handloom units according to (b). (p. 312)

Appendix 60

Market for New and Used Equipment, and the Extent of Integration of Entrepreneurs in their Manufacture, 1976/7

Particulars	Handloom units			Power-loom units	Sample mills
	1-14 (looms)	15+ (looms)	All units		
(1)	(2)	(3)	(4)	(5)	(6)
1. No. of looms built to order, owner fully involved	249	264	251	74	–
2. No. of used looms bought	217	259	222	41	540
3. % of 1 in total looms	49	46	49	62	–
4. % of 2 in total looms	43	46	43	35	7
5. No. of units disinvesting any looms between 1969/70-1976/7$^{\alpha}$	12.0	1.4	10.7	–	–
6. Ratio of 5 to the no. of cases	14	5	12.9	–	–
7. No. of looms so shed per unit (No.)	0.42	0.21	0.39	–	–

Notes:(a) The disinvestment is net; the value of nil for the % of the powerloom units shedding any loom in 1969/70-1976/7 is consistent with the finding, in the same col, that 35% of the looms in these units are acquired used. This is partly because the used looms were mostly bought from non-Bengali owners who wound their business in 1971, and hence are outside our sample. Partly also this is due to the remaining looms being bought before 1969/70. Rows 3 and 4 may not add up to 100, because looms could also be acquired through imports.

Source:Data from the sample surveys.

(Source: Chowdhury, 1982, 239)

Appendix 61

Comparative Cloth Prices, and Pricing Flexibility of the Handloom, Powerloom and Mill Units, 1975/6, 1976/7

(All figures are weighted; Tk./yd.)

Year	Handloom units	Power-looms	Mills
(1)	(2)	(3)	(4)
1. 1975/6	6.94	6.02	5.60
2. 1976/7	8.19	7.18	6.02
3. Unit price in 1976/7 with 1975/6 as 100	118	119	108

Notes:(a) First unit-specific price per yard was estimated using relative yardage of each type of cloth made as the weights. Unit-specific averages were further weighted by the relative yardage made by the unit in question in the given year in order to arrive at the average values presented above.

Sources:Data from the sample surveys.

(Source: Chowdhury, 1982, 286)

Appendix 62

Average Annual Output Growth Rates in the Textile and Clothing Industry, 1963-75

	1963-68 %	1968-73 %	1973-75 %
Textiles (23 or 321)	3.0	11.3	0.1
Clothing and Shoes (24 or 322 and 324)	8.3	6.1	-2.1

Source: Rodriguez (1977), Appendix

Figures refer to total output of enterprises with more than four employees; no base year for prices given.
(In 24, total output in clothing (322) accounted for 56%, total output in shoes (324) for 40%, and other 'confecciones' for 4% of the output of this group (MIT (1975)).

(Source: Reichmuth, 1978, 72)

Appendix 63

Employment Structure in the Artisan Stratum, 1970 and 1973

	1970		1973	
	'000	%	'000	%
Food and beverages	50.5	13.1	11.2	29.9
Textiles, clothing and shoes	227.0	58.8	11.9	31.8
Wood industry including furniture	34.0	8.8	7.0	18.7
Non-metallic minerals	12.0	3.1	2.0	5.3
Transport equipment	37.0	9.6	0.3	0.8
Other manufacturing including metal products	25.6	6.6	2.3	6.1
Other branches (printing, etc.)			2.7	7.4
Total	386.1	100.0	37.4	100.0

Source: CEMO, National Household Survey, 1970.
Manufacturing Census (year of reference: 1973)

(Source: Reichmuth, 1978, 79)

Appendix 64

Employment Structure in the Artisan Stratum, 1970 and 1973

	1970		1973	
	'000	%	'000	%
Food and beverages	50.5	13.1	11.2	29.9
Textiles, clothing and shoes	227.0	58.8	11.9	31.8
Wood industry including furniture	34.0	8.8	7.0	18.7
Non-metallic minerals	12.0	3.1	2.0	5.3
Transport equipment	37.0	9.6	0.3	0.8
Other manufacturing including metal products	25.6	6.6	2.3	6.1
Other branches (printing, etc.)			2.7	7.4
Total	386.1	100.0	37.4	100.0

(Source: Reichmuth, 1978, 79)

Appendix 65

Size of Formal and Informal Subsectors in Lima's Clothing Industry, 1973

Subsector	size of establishment	No. of enterprises	Labour force		Labour force Lima / Labour force Peru a)
SIS b)	1 employee	34,000	34,000	56,000	36%
	2	11,000	22,000		
AIS c)	3	2,500	7,500	14,500	52%
SFS:	4	400	1,500		
	5-19	600	5,500		
LFS: d)	20+	100	7,000	7,000	88%

(Source: Reichmuth, 1978, 92)

Appendix 66

Labour Productivity in 1973 in Peru's Clothing Industry

Value Added per establishment ('000 Soles p.a.)	1-4 Stratum		5+ Stratum	
	Nr. of establisht.	Average VA/ L ('000 S/.)	Nr. of establ.	Average VA/L ('000 S/.)
- 50	4,120	15.2	16	2.4
50 - 100	1,087	45.5	9	12.7
100 - 250	608	67.7	38	26.3
250 - 500	134	125.7	65	45.2
500 - 1 million	42	236.7	69	66.6
1 m - 5 "	7	473.2	115	92.1
5 m - 10 "			23	123.2
10 m - 30 "			21	155.1
30 m +			6	229.0

Source: 1974 Manufacturing Census, table 5, Vol. I;
table 5, Vol. II

(Source: Reichmuth 1978, 160)

Appendix 67

Industrial Structure of the Major Informal Industries in Peru, 1973

size classes / branches a)	No. of estimates covered by census			Employment			Output (current soles)			Value Added/Labour		
	1-4	5-19	20+	1-4	5-19	20+	1-4	5-19	20+	1-4	5-19	20+
311/12	4,562	889	251	10,251	8,183	36,831	910,754	1,845,812	25,846,412	33.9	77.6	254.2
321	955	210	244	2,012	2,031	29,837	168,387	1,071,571	17,615,288	36.0	170.1	260.9
322	5,998	247	115	8,900	2,187	7,805	550,299	410,289	2,316,579	37.2	76.0	145.2
324	558	69	50	1,023	649	5,259	91,471	113,213	1,788,815	42.3	71.1	163.4
332	2,455	150	59	3,999	1,267	3,493	254,534	199,039	925,275	32.7	73.8	142.9
342	583	204	94	1,442	1,911	5,902	196,259	400,389	2,575,528	76.9	120.1	225.8
331	1,871	143	60	2,992	1,238	3,393	156,031	287,884	1,054,296	26.5	87.5	159.7
361+369	939	183	84	1,938	1,640	7,234	82,880	247,675	3,919,070	23.4	72.3	307.2
390	404	84	41	717	750	2,113	91,975	162,499	1,064,292	57.7	100.1	271.1
381	822	202	144	1,538	1,918	10,491	141,957	512,751	4,534,139	48.1	119.0	209.5
Total (all industries)	20,236	3,117	1,803	37,422	28,661	187,368	2,954,140	7,589,084	134,309.757	37.9	108.5	314.4

Source: 1974 Manufacturing Census, table 3, Vol. I, table 3, Vol. II

a) Consumer goods
311/312: food and beverages
321: textile articles
322: clothing
324: shoe production
332: furniture
342: printing
(Source: Reichmuth, 1978, 86)

Intermediate goods
331: wood products (excluding furniture)
361/369: non-metallic minerals
390: other manufactured products

Capital goods
381: metal products

Appendix 68

Production and Net Income in Lima's Informal Clothing Industry, April 1976

	Number of Establ	Average Number of Products (2)	All Producers		'Independent' Producers[a)]		'Dependent' Producers[b)]		Column (4) in Prices of 1971 (9)
			VA/ Product (3)	Net Income[c)] (4)	VA/ Product (5)	Net Income (6)	VA/ Product (7)	Net Income (8)	
1. Trousers	49	63	161	9,404	178	12,165	146	8,183	4,478
2. Jackets	12	15	517	7,967	505	9,195	542	7,364	3,794
3. Suits	8	17	1,275	20,185	1,275	21,607	1,275	20,990	9,612
4. Shirts	10	55	194	9,919	232	13,266	106	4,673	4,723
5. Dresses	14	22	128	2,607	113	2,083	155	4,115	1,241
Total	93			9,184					4,373

Source: Questionnaires of the DGA-survey

a) The category 'Independent' producers refers to those who themselves supplied the cloth they worked with.

b) The category 'Dependent' producers refers to those who were supplied with cloth (includes subcontractors).

c) Average VA per establishment after deduction of payment to remunerated labour.

(Source: Reichmuth, 1978, 130)

Appendix 69

Subcontracting in the Major Informal Industries in Peru, 1973

(% of the total value of output which was produced for parent firms

No. of empl. per establ. / branch	1	2	3	4	1-4	5-19	20+
Food production	7.1	3.7	1.6	1.5	2.7	3.8	0.6
Textiles	14.2	6.1	5.5	8.9	7.6	8.4	5.2
Clothing	80.3	66.6	47.0	41.1	63.3	9.4	4.0
Shoe production	9.3	7.8	1.8	2.4	4.8	0.4	-
Furniture	7.6	9.8	6.3	4.6	4.1	3.0	-
Printing	10.7	32.8	8.4	8.7	13.4	6.4	1.4
Wood production except furniture	10.0	5.9	9.8	16.0	11.1	3.7	3.7
Other manufactured products	3.9	2.9	9.0	4.9	5.2	0.8	1.7
Metal production	11.4	7.3	5.9	7.3	7.5	5.4	2.5
All industries (311-390)	34.8	20.0	10.0	8.2	16.2	6.1	1.5

Source: Manufacturing Census 1973, tables 20 and 21, Vol. I; 34, 35, 36 Vol. III

(Reichmuth, 1978, 87)

Appendix 70

Cost structure in Peru's Clothing Industry according to Size Strata[a] 1973 ('000 Soles).

	1-4 Stratum[b]				5+ Stratum			
	Amount			%	Amount			%
Labour Cost[c]			41,512	13			554,415	21
Costs of operation		%				%		
Material current inputs	190,727	87		(58)	1,303,663	90		(51)
Energy	7,296	3			10,194	1		
Spare parts, accessories	1,431	1			11,342	1		
'Subcontracted' production	11,758	5		(4)	75,197	5		(3)
Goods sold without transformation d)	7,871	4			26,802	2		
		100	219,083	67			1,427,198	56
General Costs (Overheads)								
Rent (premises, machinery)	33,058	50			34,235	6		
Interests	1,097	2			66,265	11		(3)
Advertising	1,281	2			50,603	9		
Professional Services	3,472	5			15,349	3		
Indirect taxes	-				125,347	21		(5)
Royalties	-				9,139	1		
Others (selling and distr., admin., insurance etc.)	27,786	41			286,457	49		
		100	66,694	20		100	587,397	23
Total Cost			327,289	100			2,569,010	100

Source: 1974 Manufacturing Census, Tables 3, 17, 20, Vol. I;
3, Vol. II. 32, 33, Vol. III

a) Based on the (slightly rearranged) cost structure given in the census; it is incomplete in so far as capital depreciation is not included since only accumulated depreciation is given in the Census.

b) Wages and salaries paid in cash and kind, plus all contributions prescribed by law to be paid to employees; remunerated labour only.

c) In the 1-4 stratum, information was provided by 3,875 informants out of 5998 establishments covered by the Census.

d) Purchasing value

(Source: Reichmuth, 1978, 101)

Appendix 71

Workers in the textile and clothing industry, 1950-70

Industry	1950	1960	1970
Textiles	368,960	328,297	342,839
Clothing	19,344	33,244	77,837
Total	388,304	361,541	420,676

Source: IBGE, Censo Industrial.

(Source: Schmitz, 1982, 56)

Appendix 72

Workers in the clothing industry (including knitwear), 1950-70

Year	1950	1960	1970
Workers	26,557	45,174	112,626

Source: IBGE, Censo Industrial.

(Source: Schmitz, 1982, 57)

Appendix 73

Workers in the spinning and weaving industry, 1950-70

Year	1950	1960	1970
Workers	242,206	213,060	193,514

Source: IBGE, Censo Industrial.

(Source: Schmitz, 1982, 59)

Appendix 74

Tailors and seamstresses, 1950-70

Year	1950	1960	1970
Workers	257,804	388,814	405,328

Source: IBGE, Censo Demográfico.

(Source: Schmitz, 1982, 57)

Appendix 75

Enterprises and workers in the hammock industry of Brazil and Ceará, 1970

Type of enterprise	Number of enterprises		Number of workers	
	Brazil	Ceará	Brazil	Ceará
Enterprises with five or more workers	86	43	1205	781
Enterprises with less than five workers	138	26	294	67
Total	224	69	1499	848

Source: IBGE, Censo Industrial.

(Source: Schmitz, 1982, 82)

Appendix 76

Enterprises and workers in the hammock industry of Fortaleza, 1976

Type of enterprise	Number of enterprises	Number of workers
Enterprises with ten or more workers	19	788
Enterprises with less than ten workers	19	78
Total	38	866

Source: Ministry of Labour, '2/3 Survey', 1976. The hammock branch belongs to the textile industry (branch 106 of '2/3 survey') and its data are not published separately. Only through a detailed register of textile enterprises, provided by the Human Resources Department of SUDENE, was it possible to compute the above data for 1976.

(Source: Schmitz, 1982, 83)

Appendix 77

Hammock makers in Brazil, Ceará and Fortaleza, 1970

	Brazil	Ceará	Fortaleza
Men	1251	636	368
Women	4827	1539	407
Total	6078	2175	775

Source: IBGE, Censo Industrial; data for Fortaleza are taken from special tabulations.

(Source: Schmitz, 1982, 83)

Appendix 78

Distribution of enterprises in the textile industry of the state of São Paulo, according to registered capital and location, 1976

Location	up to Cr$ 100	101-500	501-1,000	1,001-5,000	5,001-10,000	10,001-20,000	20,001-50,000	50,000 +	Total
Americana	450	78	29	28	11	4	2	1	604
São Paulo (capital)	225	195	112	193	64	47	23	28	887
Other towns	257	80	35	90	32	16	19	9	538
Total	932	353	176	311	107	67	45	38	2029

Source: Sindicato da Indústria de Fiação e Tecelagem em Geral no Estado de São Paulo, Relação das Empresas Têxteis do Estado de São Paulo, 1976.

(Source: Schmitz, 1982, 126)

Appendix 79

Firms and workers in the textile industry of Americana according to size of firm, December 1978

	Size of firm according to number of workers							
	1-4	5-9	10-49	50-99	100-199	200-499	500+	Total
Firms	143	86	77	19	13	10	7	355
Workers	323	589	1703	1369	1920	2734	6057	14701

Source: Sindicato dos Trabalhadores na Indústria de Fiação e Tecelagem de Americana, Relação de Empresas e Número de Empregados com Base nas Guias de Recolhimento de Contribuição Assistencial, 1978.

(Source: Schmitz, 1982, 131)

Appendix 80

	Simple	Workshop	Factory
Technology	Hand Tools	Power Tools	Machinery
Expansion pattern	Replication via apprenticeship	Apprenticeship & more/ better tools	More/better more/complex machinery
Product pattern	Non-standard		Standardised
Production pattern	Spasmodic/non-routine		Routinised
Division of labour	By workers' career stage only	Some functional division	Machine-related division separate clerical
Skill levels	Generally high	Skilled & semi-skilled	High unskilled/ semi-skilled component
Authority structures	No separate management	Unlikely separate management	Separate management
Spatial networks 1. Raw materials	local: same town/village	Mixture local and extended	marked extendidness Important extra-state component
2. Markets	"		
Outlet type	Shop/own premises	Own premises/merchant	Other industry/ wholesale

(Source: Mars, 1977, 20)

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